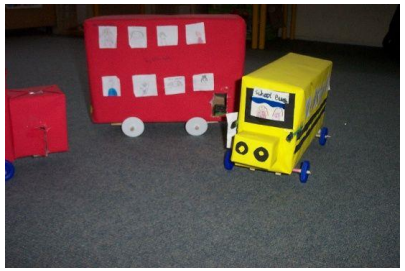
Year 1

Term and Unit	Disciplinary Knowledge	Sequence of Learning	Vocabulary
Smoothies 	**Design** To design purposeful, functional, appealing products based on **a given design criteria** To design purposeful, functional, appealing products for themselves and others **Make** To select from and use a wider range of tools, equipment, materials and components, according to their characteristics, to perform practical tasks **Evaluate** To begin to explore and analyse a range of existing products in detail with some support To evaluate my ideas and products against my class design criteria, beginning to take into account others' views on how to improve my work	To understand where food comes from. To identify features of a range of fruit, including appearance, taste and texture. To use the basic principles of a healthy and varied diet to prepare dishes. To understand the importance of hand washing. To know how to cut ingredients using a plastic serrated knife. To know how to peel ingredients using a child-friendly peeler. To select from and use ingredients to make a healthy smoothie. To evaluate the smoothie based on appearance, taste and texture.	Soft/hard Juicy/crunchy Sweet/sour Flesh Skin Seed Pip Core Fruit Smoothie Healthy diet Purpose Ingredients Chopping board Blender Hygiene Germs Peel Blend
Houses 		To understand what a house must have and what things make it more appealing. (Use to make design criteria. Eg. a house must have a roof, a door, walls) To experiment making things **stronger, stiffer and more stable**. To design a model house. To build structures and explore how they can be made **stronger, stiffer and more stable**. To use scissors, glue and **Sellotape** to cut, shape, join and finish with support. To evaluate the house based on the design criteria.	Purposeful Functional Equipment Construction material Strong Stiff Stable Product Design Design criteria

Year 2

Term and Unit	Disciplinary Knowledge	Sequence of Learning	Vocabulary
Moving Vehicles 	**Design** To develop and communicate my ideas through **templates and mock ups** To use research to develop a class design criteria to inform the design of functional and appealing products that are fit for purpose. **Make** To select from a range of tools, equipment, materials and components to perform practical tasks, by beginning to **think about their characteristics, with some support** **Evaluate** To begin to explore existing products using simple judgements, with some support To begin to evaluate my ideas and products against a **given design criteria** beginning to take into account others' views on how to improve my work	To explain that wheels move because they are attached to an axle. To look at existing products with wheels and axels. To recognise that wheels and axles are used in everyday life, not just in cars. To identify and explain vehicle design flaws using the correct vocabulary. To create a class design criteria. To understand what a 'mock-up' is and why it is useful To design a vehicle that includes functioning wheels, axles and axle holders. To use a choice of materials to make a moving vehicle with working wheels and axles. To explain what must be changed if there are any operational issues.	Mock up Purposeful Functional Equipment Saw Glue gun Construction material Rotate Wheels Axles Stable Product Design Design criteria
Animal Puppets 		To know what puppets are, who they might be for and how and where they might be used. (Look at puppets as a class) To begin to explore different joining techniques To know that a 3-D textiles product can be assembled from two identical fabric shapes To design a puppet and use a template. To have basic awareness of simple stitches (e.g. running stitch) To know the basic safety rules of using a needle To join two pieces of fabric together	Product Purpose User Template Design Sew Staple Seam allowance Pattern pieces Mark out Thread Felt Decoration Running stitch

		To decorate a puppet to match their design.	

Year 3			
Term and Unit	**Disciplinary Knowledge**	**Sequence of Learning**	**Vocabulary**
Seasonal Tart 	**Design** To develop and communicate my ideas through **discussions and simple annotated sketches** To develop and communicate my ideas through **exploded diagrams** To use research to develop a class design criteria to inform the design of functional and appealing products that are fit for purpose **Make** To select from and use a wider range of tools, equipment, materials and components, according to their characteristics, to perform practical tasks **Evaluate** To begin to explore and analyse a range of existing products in detail with some support. To evaluate my ideas and products against my class design criteria, beginning to take into account others' views on how to improve my work	To know that food is grow, reared, caught in the UK, Europe and the wider world. To explain that fruits and vegetables grow in different countries based on their climates. To understand that seasonal fruits and vegetables grow in a given season. To understand that eating seasonal fruit and vegetables positively affects the environment. To research seasonal ingredients To design a tart recipe using seasonal ingredients. To know about food hygiene To use the claw and bridge techniques to cut and dice ingredients To evaluate the tart based on taste, appearance, smell and seasonality.	grown, reared, caught, processed, seasonality, fresh, pre-cooked preferences, varied diet nutrition recipe food hygiene claw bridge
Egyptian collars 		To know what products are, who they might be for and how and where they might be used. To look at different materials and where they come from. To know how to cross stitch and applique. To demonstrate their ability to use cross-stitch as a decorative feature or to join two pieces of fabric together. To develop appliqué designs based on design criteria. To design, cut and shape their template for an Egyptian collar, with increasing accuracy. To decorate their Egyptian collar using a variety of techniques such as appliqué, cross-stitch, beads and buttons.	Pattern piece Textiles Aesthetic Applique Running stitch Cross stitch Whip stitch Back stitch Man-made materials Natural materials Design Criteria Trend Dye Accessories Thread Sewing needle Recycled fabric

		To measure and attach a ribbon with a running stitch. To evaluate my work at regular intervals throughout the making process in order to make improvements.	

Year 4

Term and Unit	Disciplinary Knowledge	Knowledge to be covered What should the children know?	Vocabulary
Greek Dish- Bourokakia 	**Design** To develop and communicate my ideas through annotated sketches To develop and communicate my ideas through prototypes and pattern pieces To use research to develop criteria, **in a small group,** to inform the design of functional and appealing products that are fit for purpose **Make** To select from and **accurately** use a wider range of tools, equipment, materials and components, according to their characteristics, to perform practical tasks **with growing independence** **Evaluate** To explore and analyse a range of existing products in detail To evaluate my ideas and products against my group design criteria, **taking into account others' views on how to improve my work**	To understand and apply the principles of a healthy and varied diet To understand that different foods contain different substances that are needed for health. To understand the difference between 'sweet' and 'savoury' To know about Greek cuisine and the main ingredients that are use. To describe features of ingredients using taste, texture and appearance. To use knowledge of food hygiene. To follow a recipe with support. To use my knowledge of the dish to create a design-criteria in a small group. To design and make a new product, adapting the recipe and using additional ingredients. To evaluate my product based on the design criteria.	Tools Equipment Peel Chop Slice Grate Mix Ingredients Aesthetic Varied diet Nutrients Water Fibre Sweet Savoury Food poisoning
Doodlers 		To Identify simple circuit components (battery, motor and switch) with a basic explanation of their function. (eg. motor is a circuit component that changes electrical energy into movement.) To research examples of motorised products that use movement to rotate or spin different parts. To remove and replace different parts of a Doodler, as part of a team. To develop design criteria with consideration for the target user, the purpose of their Doodler, a key function and the Doodler's form and final appearance (e.g. fun, bright, soft). To design a functioning and appealing doodler.	Battery Switch Motor Circuit Electricity flow Electrical energy Investigate

		To create a functional Doodler that creates scribbles on paper with or without a switch. To provide suggestions to improve a peer's doodler. To improve my product based on the feedback of others.	

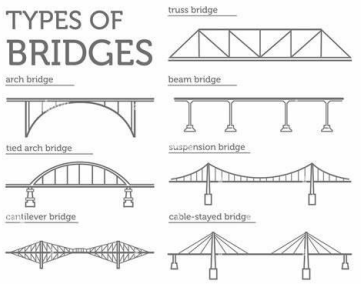
Year 5

Term and Unit	Disciplinary Knowledge	Knowledge to be covered What should the children know?	Vocabulary
Automata Toys 	**Design** To develop and communicate my ideas through annotated sketches, pattern pieces and prototypes (textiles unit) To develop and communicate my ideas through exploded diagrams (mechanisms and food unit) To conduct my own research to develop my own criteria, to inform the design of innovative, functional and appealing products that are fit for purpose **Make** To independently select from and **accurately** use a wider range of tools, equipment, components and materials, according to their characteristics, to perform practical tasks **Evaluate** To independently explore and analyse a range of existing products in detail To evaluate my ideas and products against my own design criteria, **taking into account others' views on how to improve my work**	To know what cams are, their different types and how they work To understand how key events and individuals in design and technology have helped shape the world (influence of Victorian toys on toys today). To use cams in a product To mark, saw and cut out the components and supports of their toy with a varying degree of accuracy to the intended measurements. To follow health and safety rules, taking care with the equipment. To attempt a partial assembly of their toys using an exploded-diagram, following a teacher's demonstration. To develop a design idea with some descriptive notes. To explore different cam profiles and choose three for their follower toppers with an explanation of their choices. To create neat, decorated follower toppers with some accuracy. To measure and cut panels that fit with some inaccuracies to conceal the inner workings of the automata. To decorate and finish the automata to meet the design criteria and brief. To evaluate their finished product, making descriptive and reflective points on function and form.	Research Innovative Functional Appealing Aesthetic Cams Linkage Exploded diagram Lever Mechanism Follower Shaft Slide

Steady Hand Test Game 		To explain simply what is meant by ‘form’ (the shape of a product) and ‘function’ (how a product works). To state what they like or dislike about an existing children’s toy and why. To learn about skills developed through play and apply this knowledge in a survey of one or more children’s toys. To identify the components of a steady hand game. To design a steady hand game of their own according to their design criteria, using four different perspective drawings. To create a secure base for their game, with neat edges, that relates to their design. To make and test a functioning circuit and assemble it within a case.	Buzzer Bulb Series circuit Parallel circuit Component Conductor Form Function Innovative Insulator Modify switch wire

Year 6

Term and Unit	Disciplinary Knowledge	Knowledge to be covered What should the children know?	Vocabulary
Anderson Shelters 	**Design** To design an innovative, functional, appealing product that is fit for purpose and is appropriate for specific groups or individuals. To develop and communicate my ideas through **computer-aided design** To **independently choose my design method and offer explanations** as to why I have chosen this design method **Make** To **independently select and use** tools, equipment, materials and components to perform practical tasks and **discuss in detail why I have chosen them, based on their properties.** **Evaluate** To **independently** set up my own investigation on existing products and analyse each one **in detail.** To evaluate my ideas and products in detail **against my own design criteria**, and can **discuss with others how to improve my work and theirs.**	To understand how key events and individuals in design and technology have helped shape the world. To identify stronger and weaker shapes. To recognise that supporting shapes can help increase the strength of a structure, allowing it to hold more weight. To cut beams to the correct size, using a cutting mat. To smooth down any rough cut edges with sandpaper. To complete the structures, with varying ranges of accuracy and finish. Secure their structure to a base. To make a range of landscape features using a variety of materials which will enhance their apparatus. To continually identify some areas for improvement on their work and others in order to make improvements throughout the making process.	Innovative Functional Appealing Cross-sectional design Exploded diagram Prototypes Computer-aided design Structure Technology Reinforce

Bridges  		To understand what a pulley is and its mechanisms. To understand what a gear is and its mechanisms. To understand how key events and individuals in design and technology have helped shape the world. To know about the different types of bridges (e.g. arch, beam, suspension, cable-stay, truss, etc.) To produce a suitable design for their bridge mechanism. To produce the structure of the bridge. To assemble the components necessary for all the structures/mechanisms. To hide the mechanical elements. To use a range of mechanisms and structures to create an appealing final product. To continually identify some areas for improvement on their work and others in order to make improvements throughout the making process.	Innovative Functional Cross-sectional Exploded diagram Prototype Pattern piece Computer aided Pulleys Gears Strengthen Stiffen Reinforce Mechanism Technology Arch bridge Beam bridge Suspension bride Cable-stay bridge Truss Structure