Stokes Wood Primary School

EYFS		
Outcomes Children have regular opportunities to engage with the arts and design activities enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts and design. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe. We provide opportunities for ongoing child-initiated design activities that encourage creativity and imagination. The whole school D&T does not give resources for nursery. The nursey curriculum is based on the 'Development Matters' framework. Nursery and reception work very closely and all topics include D&T are interlinked. Nursey and reception both have creative areas where D&T skills are learnt and practised throughout the year. The following topics are focused activities with an adult supporting.		
Nursery		
Unit 1 This unit links with various activities carried out in Forest School.	**Unit 4** This unit links to the book *Mr Grumpy.*	**Unit 5** This unit links to the traditional tale *Three Little Pigs.*
Use of glue – Nature crown What is the difference between wet glue and a glue stick? I can explore the differences between the different glues. Which glue is better to use to make a nature crown? I can choose the correct glue to make the different materials stick to the crown. How can I make my crown even better? I can evaluate my choice of glue and change it if necessary.	**Use of tape – Mr Gumpy's boat** What is tape and how do I use it? I can explore the different tapes and understand how to use them. Which media shall I use to create a vehicle? I can choose between glue and tape to make the parts of my vehicle join together. How can I make my vehicle even better? I can evaluate my choice of media and change it if necessary.	**2D texture house** What do different materials feel like? I can explore the texture of different materials and talk about how they feel. What do we use different materials for? I can talk about the use of different familiar materials. (Linked to 3 Little pigs) What can I use to make a house? I can use appropriate media and materials to make a house for the 3 Little Pigs. (Sticks, straw, paper, fabric, corrugated card).

Question: What is the difference between wet glue and a glue stick? Which glue is better to use to make a nature crown? How can I make my crown even better?	**Question:** What is tape and how do I use it? Which media shall I use to create a vehicle? How can I make my vehicle even better?	**Question:** What transport do we use today? -What transport did people use in the past? -Can you talk about the similarities and differences between these forms of transport?

Reception

Outcomes:

In the Early Years Foundation Stage, design and technology forms part of the learning children acquire under the 'Understanding the World', and the 'Expressive Arts and Design' branch, of the Foundation Stage curriculum. The children are provided with a series of opportunities and meaningful experiences linked to the topics they cover each term. These opportunities are carefully planned for with the activity taught and modelled at the beginning of term. Then, after this, children are encouraged to explore creating things independently or with peers in the continuous provision. All year children have access to a construction area. In this area children build 3D models using a wide range of construction toys and have visual prompts to help them develop their ideas and build for a purpose. They can choose to work collaboratively or independently. In our creation station all year, children learn to construct with a purpose in mind, children use scissors, glue, string, lolly pop sticks, pipe cleaners and junk modelling materials to make different things. For example, jewellery, bags, badges, books, towers, and cards. The children have to problem solve on their own to join structures together and test what will work with different materials and what will not work. Through this, the children learn about planning and adapting initial ideas to make them better. For example, a child might choose to use scissors, a stapler, elastic bands and glue to join bits together to make a toy vehicle. But they might then modify their initial idea by using masking tape. We also have a playdough station all year and children create 3D models linked to their learning. For example, a hedgehog when they are learning about 'Night and Nocturnal Animals'. On our curiosity table there are often objects that children can dismantle and discover how they can be put together again. For example, a child might dismantle a pepper grinder and learn how it is put together and the materials different parts are made of.

Autumn 1 / 2 **Link to topic:** Feelings, friends and family Fairytales, festivals and fireworks	**Unit 3 / 4** **Link to topic:** Space, night and nocturnal animals Leaves, life and landscapes	**Unit 5/ 6** **Link to topic:** People who help us, a journey into the past Travel, transport and the seaside
Autumn 1 **Shoe Box House -** **I can make a house using a shoe box.** The children will safely begin to manipulate and join different materials together using glue sticks, masking tape, Sellotape, and blunt scissors. They will learn the skills of folding, ripping, snipping, cutting, and hole-	**Spring 1** **Junk Model Rocket-** **I can make a rocket using junk modelling materials.** The children will plan how they will build their rocket and talk about what they have planned. They will be encouraged to follow their plan whilst building their rocket.	**Summer 1** **3D paper plate dinosaurs** **I can use paper plates to make a model of a dinosaur.** The children will plan how they will build their paper plate dinosaur and discuss with each other what will work and what will not work.

punching. The children will look at how to attach a paper door to their shoe box. **Autumn 2** **Pumpkin Soup** **I can participate in making pumpkin soup.** As part of learning and celebrating Halloween the children make pumpkin soup. They are introduced to a simple recipe and follow each step in small groups. The children must practise their cutting skills when chopping, and they are taught hygiene skills to ensure they can prepare the food safely.	The children will build on their existing knowledge to join different materials together; however, this will be on a larger scale as the children will have access to large cardboard boxes, plastic bottles, and cereal boxes. **Spring 2** **Shoe box animal habitat** **I can make an animal habitat.** As part of our topic surrounding nocturnal animals and night, the children will have access to a wide variety of natural materials and will be encouraged to make an animal habitat. We also go on a school trip to the botanical gardens and one of the taught sessions is about habitats. Therefore, this builds on a meaningful experience.	They will then evaluate their work and talk about what they like and what they feel they could do better. **Summer 2** **Making a boat** **I can make a boat using different materials and test to see if they float or sink.** The children will make a boat using different materials for example, paper, card, foil, tissue paper, toilet roll, different construction, (mobile/lego/stickle bricks). They will then evaluate if the boat sinks or floats and discuss their observations. The last step will be talking about what they would do better next time. **I know how to hammer a nail into a piece of wood safely. (Forest school)**
Question: Unit 1 What shape is a house? What shape is a window? What shape is a door? What materials could I use for each part? How can I make the door stick on my house? What can I use to make windows and a roof? Unit 2 What is a pumpkin?	**Question:** Unit 3 What shapes can you see on a rocket? What materials could you use? How can you join these materials together? Unit 4 What will keep an animal warm? What will keep an animal dry? What are natural materials? Where can you find natural materials?	**Question:** Unit 5 What shapes will you need to cut? What colours will you need? What materials will you use and why? How can you join these materials together? Unit 6 What types of materials sink? What types of materials float?

What is a recipe? How do I cut food up safely? How do I prepare food safely?		What can I do better next time?

Year 1

Outcomes: Pupils should be taught to design, make and evaluate purposeful products for someone to use or enjoy. They should explore and use mechanisms, structures, including a wide range of tools, equipment, materials and components. Pupils should be able understand and apply the principles of nutrition and learn how to cook.
To support the development of cross-curricular learning, D&T links with other subjects such as healthy eating in PSHE (eatwell plate). Puppets links with different materials in science covered in the everyday materials unit. Wheels and axles linked with old and new toys in history. Comparing old and new toys.

Unit 4 This builds on the previous lessons	**Unit 5** This builds on the previous lessons	**Unit 6** This builds on the previous lessons
Wheels and Axles Learn about the key parts of a wheeled vehicle, to develop an understanding of how wheels, axles and axle holder's work. Design and make a moving vehicle.	**Fruit and Vegetables** Learn to distinguish between fruit and vegetables and where they grow. Design a fruit and vegetable smoothie and accompanying packaging.	**Puppets** Explore methods of joining fabric. Design and make a character-based hand puppet using a preferred joining technique, before decorating. Alternate theme Easter Animals
Lesson 1: How do wheels move? **Mechanisms** To investigate how wheels move on a variety of different objects. Pupils create a simple version of a wheel mechanism, including an axle, wheel and axle holder. To identify similarities and differences between ways of life.	**Lesson 1: Fruit or vegetable?** **Cooking and Nutrition** To identify if a food is a fruit or a vegetable. The children learn to distinguish fruits from vegetables, and putting this knowledge into practice, handling and categorising a selection of fruits and vegetables.	**Lesson 1: Joining fabrics.** **Textiles** To join fabrics together using different methods. Pupils explore and evaluate different ways to join fabrics together, including gluing, pinning and stapling.
Lesson 2: Fixing broken wheels. **Mechanisms** To identify what stops wheels from turning. To identify what stops wheels from turning.	**Lesson 2: Where fruit and vegetables grow.** **Cooking and Nutrition** To identify where plants grow and which parts we eat. Having learned to sort fruits from vegetables by looking for seeds, pupils learn another clue to classification is where the edible part of the plant grows, on trees, or vines, above the ground or under the soil; and explore which part of these plants we eat.	**Lesson 2: Designing my puppet.** **Textiles** To use a template to create my design. After deciding on which character their puppet will be based, children use a simple template to cut out their felt.

Lesson 3: Designing a vehicle. **Mechanisms** To design a moving vehicle. Children learn the different components of a vehicle with moving wheels and design a moving vehicle of their own.	**Lesson 3: Smoothie ingredients tasting.** **Cooking and Nutrition** To taste and compare fruit and vegetables. String a selection of potential fruit and vegetable smoothie ingredients, describing their appearance, smell and taste and deciding which to include in a smoothie.	**Lesson 3: Making and joining my puppet.** **Textiles** To join two fabrics together accurately. Children join their pieces of fabric for their puppet, using their preferred technique of pinning, stapling or gluing.
Lesson 4: Wacky races **Mechanisms** Using their designs, children build and then test their vehicles. To build a moving vehicle.	**Lesson 4: Making smoothies.** **Cooking and Nutrition** To make a fruit and vegetable smoothie. Children prepare and blend chosen fruits and vegetables to make smoothies and design packaging for their drinks to reflect the ingredients.	**Lesson 4: Decorating my puppet.** **Textiles** To embellish my design using joining methods. Children decorate their hand puppet in keeping with their chosen storybook character using a variety of carefully selected materials.

Year 2

Outcomes: Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts.
To support the development of cross-curricular learning, D&T links with other subjects such as Baby Bear's Chairs with traditional tales (Goldilocks), making a moving monster with the defeating the monster story (the Gruffalo) and balanced diet links with PSHE and science (healthy lifestyle).

Unit 2	**Unit 5**	**Unit 6**
These lessons build on previous learning covered in reception with junk journalling. Children learned the names of various craft tools; learned cutting and scissor skills; planned and built a junk model and built on their knowledge of joins, such as glue, paper clips and sticky tape and tinkered with a range of joining methods (e.g hook and loop shoes)	This unit builds on previous learning covered in year one with wheels and axles. The children can explain that wheels move because they are attached to an axle. recognise that wheels and axles are used in everyday life, not just in cars; Identify and explain vehicle design flaws using the correct vocabulary; design a vehicle that includes functioning wheels, axles and axle holders; make a moving vehicle with working wheels and axles and explain what must be changed if there are any operational issues.	This unit links back to previous work in reception where the children used their cutting and chopping skills (with support) to create a healthy soup. In year 1, the children designed a smoothie carton packaging by-hand or on ICT software; chopped up fruit and vegetables safely; identified whether a food is a fruit or a vegetable; Learned where and how fruits and vegetables grow and evaluated their food combinations through its appearance, smell and taste.
Baby Bear's chair Explore stability and methods to strengthen structures, to understand Baby Bear's chair weaknesses and develop an improved solution for him to use.	**Making a moving monster** Explore levers, linkages and pivots through existing products and experimentation, use this research to construct and assemble a moving monster. Example theme: Moving monster. Alternative theme: Easter – Mechanical animals	**A balanced diet** Learn about the food groups (carbohydrates, proteins, fruits and vegetables, dairy, oils and spreads) to understand a balanced diet to develop a healthy wrap.
Lesson 1: Exploring stability. **Structures** To explore the concept and features of structures and the stability of different shapes. Using a scientific approach, children test the stability of 3D shapes that they have moulded themselves and explore man-made and natural structures.	**Lesson 1: Pivots, levers and linkages** **Mechanisms** To look at objects and understand how they move. Looking at everyday objects, children learn that a lever is something that turns on a pivot and that a linkage is a system of levers that are connected by pivots.	**Lesson 1: Hidden sugars in drinks.** **Cooking and nutrition** To know what makes a balanced diet. Children learn how much sugar is in a variety of drinks, including 'healthy' juices, and then categorise different foods into their correct food groups.

Lesson 2: Strengthening materials. **Structures** To understand that the shape of the structure affects its strength. While reinforcing their mathematical vocabulary, children build different paper structures and then test them to destruction!	**Lesson 2: Making linkages?** **Mechanisms** To look at objects and understand how they move. Children experiment with making the linkages that will enable their monsters to move, varying the width, length and thicknesses of the card they use and demonstrating to the class the success of these adaptations.	**Lesson 2: Taste testing combinations.** **Cooking and Nutrition** To taste test food combinations. Having tested taste combinations of foods, children design a wrap of balanced ingredients.
Lesson 3: Making Baby Bear's chair **Structures** To make a structure according to design criteria. Considering what kind of chair Baby Bear would like, pupils develop a design criterion which uses all their knowledge of building strong and stable structures and begin to make their chairs.	**Lesson 3: Designing my monster.** **Mechanisms** To explore different design options. With levers, linkages and pivots in mind, children design two possible moving monster ideas against a set of design criteria and then carry out a tally survey to see which design is favoured by their peers.	**Lesson 3: Designing and making a wrap.** **Cooking and Nutrition** To design a healthy wrap. Building on their taste testing investigations from Lesson 2, children design three possible wrap options before selecting their favourite and drawing and labelling their final design.
Lesson 4: Fixing and testing Baby Bear's chair. **Structures** To produce a finished structure and evaluate its strength, stiffness and stability. When Baby Bear's chair is complete, pupils test its strength and stability, and use their problem-solving skills to adapt their structure as necessary.	**Lesson 4: Making my monster.** **Mechanisms** To make a moving monster. Children construct and assemble their moving monsters, decorating them as specified in their original designs from Lesson 3 and finally evaluating their efforts against their original Design Brief.	**Lesson 4: Making and evaluating.** **Cooking and Nutrition** To make a healthy wrap. Children prepare the wraps they designed, chopping ingredients safely using the 'bridge' or 'claw' grip and then evaluating the outcomes.

Year 3 **Outcomes: Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts.** To support the development of cross-curricular learning, D&T links with other subject such as mechanical systems links with forces and magnets in science; cross-stitch links with art when they're sketching and painting Matisse. Food links in with the science topic on healthy bodies. Instructional texts in literacy and land use in geography.		
Unit 3 These lessons build on previous learning covered in year 2 with	**Unit 5** These lessons build on previous learning covered in year 2 with	**Unit 6** These lessons build on previous learning covered in year 2 with
Pneumatic toys Explore pneumatic systems, then apply this understanding to design and make a pneumatic toy including thumbnail sketches and exploded diagrams.	**Eating seasonally** Learn about various fruits and vegetables, and when, where and why they are grown in different seasons. Discover the relationship between colour and health benefits.	**Cross-stitch and appliqué** Learn and apply two new sewing techniques – cross-stitch and appliqué. Utilise these new skills to design and make a cushion or Egyptian collar.
1. Lesson 1: Exploring pneumatics? **Mechanical Systems.** To understand how pneumatic systems work. The children will investigate and explore different pneumatic systems.	**Lesson 1: Where in the world?** **Cooking and Nutrition .** To know that climate affects food growth. Children identify the different climates in which fruits and vegetables grow and follow a recipe to make Japanese fruit skewers.	**Lesson 1: Cross-stitch and appliqué.** **Textiles.** To learn how to sew cross-stitch and appliqué. The children are introduced to cross-stitch and the decorative sewing technique appliqué and experiment with trying these stitches independently.
Lesson 2: Designing a pneumatic toy. **Mechanical Systems.** To design a toy that uses a pneumatic system through thumbnail sketches and exploded diagrams. The children will design pneumatics toys through thumbnail sketches and exploded diagrams.	**Lesson 2: British seasonal foods** **Cooking and Nutrition.** To understand the advantages of eating seasonal foods grown in the UK. Children learn that we must import some foods from other countries, then the children bake a fruit crumble using seasonal British fruits.	**Lesson 2: Cushion design.** **Textiles** To design a product and its template. The children design their own cushions, adhering to set design criteria, which include the use of cross stitch and appliqué.

Lesson 3: Making pneumatic toys. **Mechanical Systems.** To create a pneumatic system. Children create a working pneumatic system and casing for their toys.	**Lesson 3: Rainbow food** **Cooking and Nutrition.** To create a recipe that is healthy and nutritious using seasonal vegetables. Children learn that vegetables and fruits of the same colour have similar health benefits and design a seasonal tart using a variety of local seasonal vegetables and fruits to provide a range of nutrients	**Lesson 3: Decorating my cushion.** **Textiles.** To decorate fabric using appliqué and cross stitch. The children decorate their cushions in accordance with their designs.
Lesson 4: Decorating and assembling my toy? **Mechanical Systems** To test and finalise ideas against design criteria. Pupils add decorations and assemble the final components to complete their pneumatic toys.	**Lesson 4: Making tarts.** **Cooking and Nutrition.** To safely follow a recipe when cooking. Children bring together the lessons from this unit to make their seasonal tart.	**Lesson 4: Assembling my cushion.** **Textiles** To assemble your cushion. The children complete their cushions, sewing the edges together, stuffing them and using the decorative pieces of materials from the previous lesson.

Year 4 **Outcomes: Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts.**		
Unit 1 These lessons build on previous learning covered in year 2 with Baby Bear's Chair where the children used sketching and modelling techniques for plan their design. They learned about different types of structures and created joints and structures from paper/card and tape. Finally, the children made comparisons of different shapes and evaluated the strength, stiffness and stability of their own structure.	**Unit 4** These lessons build on previous learning covered in…	**Unit 6** These lessons build on previous learning covered in year 3 where children learned the basic rules to avoid food contamination; followed the instructions within a recipe; used a design criterion to help test and review dishes; described the benefits of seasonal fruits and vegetables and the impact on the environment and suggested points for improvement when making a seasonal tart.
Pavillions Investigate and model frame structures to improve their stability, then apply this research to design and create a stable, decorated pavilion. Exploring pavilion structures, learning about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.	**Torches** Identify the difference between electrical and electronic products. Evaluate a range of existing torches and their features, then develop a new functional torch design. Pupils apply their scientific understanding of electrical circuits to create a torch made from recycled and reclaimed materials and objects. They design and evaluate their product against set design criteria.	**Adapting a recipe** Work in groups to adapt a simple biscuit recipe, to create the tastiest biscuit ensuring that their creation comes within the given budget of overheads and costs of ingredients.
Lesson 1: Exploring frame structures **Structures** To create a range of different shaped frame structures Using toothpicks and sweets, pupils explore different frame structures to test which are the most stable.	**Lesson 1: Electrical products** **Electrical Systems.** To learn about electrical items and how they work. The children explore the difference between 'electrical' and 'electronic' and revisit how to create a simple circuit.	**Lesson 1: Following a recipe** **Cooking and Nutrition.** To follow a baking recipe. After sampling and evaluating a range of biscuits, children bake a simple biscuit recipe.

Lesson 2: Designing a pavilion. **Structures** To design a structure. The children will explore different frame structures to test which are the most stable using toothpicks and sweets.	**Lesson 2: Evaluating torches.** **Electrical Systems.** To analyse and evaluate electrical products. The children will evaluate a range of different torches and identify the features of a torch: housing, reflector, circuit and switch.	**Lesson 2: Testing ingredients** **Cooking and Nutrition.** To make and test a prototype. Children work in groups to make the biscuit recipe from Lesson 1, adding different ingredients to their dough to discover which tastes best when baked.
Lesson 3: Pavilion frame **Structures.** To build a frame structure. Using their designs and a range of materials, children build a strong frame structure for their pavilion.	**Lesson 3: Torch design** **Electrical Systems** To design a product to fit a set of specific user needs. The children create a torch design, building on their understanding from and incorporating features they have identified in previous lessons.	**Lesson 3: Final design and budget** **Cooking and Nutrition** To design a biscuit to a given budget. Working to a budget which includes imaginary costs, children decide which ingredients they will spend the rest of their budget on for their biscuits.
Lesson 4: Pavilion cladding **Structures** To add cladding to a frame structure. Experimenting with different decorative techniques, pupils use paper and other materials to clad their pavilions	**Lesson 4: Torch assembly?** **Electrical Systems** To make and evaluate a torch. The children build the circuit and housing for their torches, closely following their designs from the previous lesson.	**Lesson 4: Biscuit bake off.** **Cooking and Nutrition** To make a biscuit that meets a given design brief. It's the 'Bake Off' - after making a batch of their final adapted biscuit design and packaging, a panel of judge's taste and review each group's creations.

Year 5 **Outcomes: Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts.**		
Unit 3	**Unit 5**	**Unit 6**
For this unit, the children will create a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction.	For this unit, the children will research and modify a traditional Bolognese sauce recipe to make it healthier. Cook improved versions, creating appropriate packaging and learn about where the ingredients the importance of animal welfare when farming cattle	This unit builds on the work in Y4. The Doodlers unit explores series circuits further and introduces motors. Explore how the design cycle can be approached at a different starting point, by investigating an existing product, which uses a motor, to encourage pupils to problem-solve and work out how the product has been constructed, ready to develop their own.
Mechanical systems: Making a pop-up book	**Cooking and nutrition: What could be healthier?**	**Electrical systems: Doodlers**
1. Pop-up book page design **Mechanical Systems** To design a popup book. Designing a pop-up book for younger children. After choosing an appropriate story to base their pop-up book on, children draw out the pages, write the captions and specify the mechanisms they will use and the resulting movement they envisage.	**1.From farm to fork** **Cooking and Nutrition** To understand where food comes from. Children learn how beef, the main ingredient of a Bolognese sauce, is farmed and are made aware of key welfare issues surrounding the rearing of cattle.	**1. Electrical systems and Motors** **Electrical Systems** To understand how motors are used in electrical products. Learn about series circuits and a new circuit component – the motor. Understand the motor's purpose to convert electrical energy into rotational movement and revisit wheel and axle knowledge. Identify and look at a range of products that make use of a motor.

2. Making my Pop-up book **Mechanical Systems** Children create the structure of their books, including the pop-up features, and begin to make their mechanisms.	**2. What does healthy look like?** **Cooking and Nutrition** To understand the term 'healthy' children taste test two Bolognese sauces to compare their nutritional values. Then after researching variations of the recipe, the children work in teams to decide on ingredients for a healthier alternative.	**2. Meet the Doodlers** **Electrical Systems.** To investigate an existing product to determine the factors that affect the product's form and function. Investigating an existing product to problem-solve and work out how the product has been constructed.
3. Using layers and spacers **Mechanical Systems** To use layers and spacers to cover the working of mechanism. Children secure their mechanisms onto the pages and give their books a professional finish, using layers and spacers to hide the mechanisms.	**3.Adapting and improving a recipe** **Cooking and Nutrition** To adapt a traditional recipe. The children work in teams to decide on ingredients for a healthier alternative to the Bolognese recipe.	**3.Doodler design and construction** **Electrical Systems.** To put findings from research into practice to develop an improved product. Developing an effective and functional Doodler using design criteria based on knowledge learned during the investigation in the previous lesson.
4. Writing and illustrating **Mechanisms** To create a high-quality product suitable for a target user. Children add the finishing touches to their books, adding illustrations, colour and writing captions.	**4. Mamma Mia! What a tasty, healthy Bolognese!** **Cooking and Nutrition** To complete a food product. Children work together to make their very own Bolognese sauces, following the recipe methods that they wrote last lesson and designing packaging that promotes it as a healthy and ethical choice.	**4. Doodler DIY kits?** **Electrical Systems.** To develop a DIY kit for another individual to assemble their product. Applying the knowledge of building a Doodler to write instructions for a DIY assembly kit.

Year 6 **Outcomes: Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts.**		
Unit 3	**Unit 4**	**Unit 6**
For this unit, the children will design and create a model for a new playground featuring five apparatus, made from three different structures. Using a footprint as the base, the children practise visualising objects in plain view and get creative including natural features. They will research existing playground equipment and their different forms, before designing and developing a range of apparatus to meet a list of specified design criteria. This builds on from their prior learning on Structures in Year 4 where they construct a table Pavilion. The children progress from creating one stable structure to designing a playground featuring a variety of different structures, considering how the structures will be used, considering effective and ineffective designs.	For this unit, the children will design and create a steady hand game, using nets to create the bases and apply knowledge of electrical circuits to build an operational circuit with a buzzer that completes the circuit when the handle contacts the wire. They will understand what is meant by fit for purpose design and form follows function. This links with electrical circuit design in science where the children learn how to construct a circuit and how to record it using scientific symbols.	For this unit, the children will research and prepare a three-course meal and taste-test and score their food. They will research the journey of their main ingredient from 'farm to fork' or write a favourite recipe. This links with their debate writing in literacy where they discuss the advantages and disadvantages of eating meat. This builds on their previous learning of where food comes from and understanding what 'healthy' means in the context of a balanced diet.

Structure: Playgrounds	Electrical systems: Steady hand game	Cooking and nutrition: Come dine with me
1. Lesson 1: Design a new playground **Structures** To design a playground with a variety of structures Designing five pieces of playground apparatus using three different structures.	**Lesson 1: Developing through play** **Electrical Systems** To research and analyse a range of children's toys. Pupils explore what is meant by fit for purpose design and apply this to their own research on children's toys to evaluate their form and function.	**Lesson 1: Three ingredients; three courses** **Cooking and Nutrition** To research and design a three-course meal. In pairs, children research a recipe for the course they will make: a pepper starter or salmon main course or pineapple dessert.
Lesson 2: Building structures **Structures** To build a range of structures. Pupils build the structures for their playground apparatus as designed in the previous lesson.	**2. Lesson 2: Game plan** **Electrical Systems** To design a steady hand game. Children identify the components of a 'steady hand game', design their own game and create perspective drawings of their design.	**Lesson 2: To start…** **Cooking and Nutrition** To prepare a meal using a recipe; To understand where their food comes from; To write up a recipe* Chose pairs of children making the pepper starters prepare and make the recipes they researched in Lesson 1, whilst the rest of the class research how salmon are reared, caught and processed, or make a recipe page for a class cookbook.
Lesson 3: Perfecting structures **Structures** To improve and add detail to structures. Pupils complete the remaining structures for their playground apparatus, developing and testing them as they work and adding the cladding.	**Lesson 3: Base building** **Electrical Systems** To construct a stable base. Children use nets to create the base blocks of their steady hand games, and decorate them in line with their design criteria.	**Lesson 3: The main course** **Cooking and Nutrition** To prepare a meal using a recipe; To understand where their food comes from and To write up a recipe* Those children making the salmon main course prepare and make the recipes they researched in Lesson 1, whilst the remainder of the class trace the journey food makes across the world to reach our supermarkets, or make a recipe page for a class cookbook.

Lesson 4: Playground landscapes **Structures** To create the surrounding landscape. Pupils secure their structures to bases and create landscape features from a range of materials to complement their playgrounds.	**Lesson 4: Electronics and assembly** **Electrical Systems** To assemble electronics and complete an electronic game. Pupils make and test their circuits and incorporate them into the bases of their games.	**4. Lesson 4: Dessert** **Cooking and Nutrition** To prepare a meal using a recipe; To understand where their food comes from; To write up a recipe* Those children making the pineapple desserts, prepare and make the recipes they researched in Lesson 1, whilst the remainder of the class find out how peppers are grown or make a recipe page for a class cookbook.