Buckstones Community Primary School

Design and Technology Medium Term Plans

EYFS		
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition	Do they wash their hands before touching food? Can they talk about the different tastes of food? Can they talk about healthy food choices?	Talk about washing hands before making gingerbread man. Talking about different tastes / favourite foods when designing gingerbread men toppings. Ongoing – discussion about healthy snack choices and how they help our bodies.
Textiles	Can they join materials together? Can they cut materials using scissors? Can they talk about how materials feel?	Workshop area – junk modelling – collages demonstrate how to use equipment and resources in the areas of continuous provision to the children. Making stick puppets – goldilocks and the 3 bears/gingerbread man/ elves and shoe maker. Making glasses. Senses – feely bag experiments.
Mechanisms	Can they cut and glue materials safely?	Senses topic – making glasses. Making stick puppets to link with traditional tales.
Construction Exploring and using media and materials ELG	Can they use tools appropriately and safely? Can they select appropriate tools and techniques to shape materials? Can they talk about their model?	Workshop area – junk modelling – collages demonstrate how to use equipment and resources in the areas of continuous provision to the children. Construction area Play dough area. Forest school activities – creating collages, leaf crowns.

EYFS		
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition	Do they wash their hands before touching food? Can they talk about the different tastes of food? Can they talk about healthy food choices?	Talk about washing hands before making smoothies, Chinese food and Easter nests. Talk about the tastes of the Chinese food/ fruit in the smoothies/ salad/kebabs.
Textiles	Can they join materials together? Can they cut materials using scissors?	Workshop area – junk modelling – collages demonstrate how to use equipment and resources in the areas of continuous provision to the children. Make Easter baskets.
Mechanisms	Can they cut and glue materials safely?	Making Nocturnal animals/ Easter cards/ Mothers day cards.
Use of materials Exploring and using media and materials ELG	Can they manipulate materials to achieve a planned effect? Can they use tools appropriately and safely?	Making hedgehogs using clay. Using tools to sculpt and mold the hedgehogs.
Construction Exploring and using media and materials ELG	Can they select appropriate tools and techniques to shape materials? Can they select appropriate tools and techniques to	Workshop area – junk modelling – collages demonstrate how to use equipment and resources in the areas of continuous provision to the children. Construction area

	assemble materials? Can they select appropriate tools and techniques to join materials? Can they talk about their model? Can they improve their work? i.e. Make their model stronger.	Play dough area. Forest school activities. Making superhero gadgets.

EYFS		
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Textiles	Can they join materials together? Can they cut materials using scissors? Can they talk about how materials feel?	Workshop area – junk modelling – collages demonstrate how to use equipment and resources in the areas of continuous provision to the children.
Mechanisms	Can they make a pop up picture?	Dear zoo books, rainbow fish pictures
Use of materials Exploring and using media and materials ELG	Can they use tools appropriately and safely? Can they use different media combined to create new effects?	Under the sea pictures – wax resist with ink. Collage sea creatures
Construction Exploring and using media and materials ELG	Can they select appropriate tools and techniques to shape materials? Can they select appropriate tools and techniques to assemble materials? Can they select appropriate tools and techniques to join materials? Can they talk about their model?	Workshop area – junk modelling – collages demonstrate how to use equipment and resources in the areas of continuous provision to the children. Construction area Play dough area. Forest school activities.

	Can they improve their work? i.e. Make their model stronger.	

Year 1- Autumn – DESIGN & TECHNOLOGY		
Design • 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	**Make** • 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	**Evaluate** • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition	•Can they cut food safely? •Can they describe the texture of foods? •Do they wash their hands and make sure that surfaces are clean? •Can they think of interesting ways of decorating food they have made?	**Fruit Salads (link to Science 'senses' topic)** Through the senses focus in science, children tasting and discussing which fruits they like/dislike before designing and then creating their own healthy fruit salads.

Year 1- Spring - DESIGN & TECHNOLOGY		
Design 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	**Make** 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	**Evaluate** explore and evaluate a range of existing products evaluate their ideas and products against design criteria
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Construction	•Can they talk with others about how they want to construct their product? •Can they select appropriate resources and tools for their building projects? •Can they make simple plans before making objects, e.g. drawings, arranging pieces of construction before building?	**Space Junk Models (link to 'Space' topic)** Children researching, designing and then creating their own space-themed junk models. Working independently and evaluating own model against original plan.

Year 1- Summer - DESIGN & TECHNOLOGY (1)		
Design 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	**Make** 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	**Evaluate** explore and evaluate a range of existing products evaluate their ideas and products against design criteria
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Mechanisms	•Can they make a product which moves? •Can they cut materials using scissors? •Can they describe the materials using different words? •Can they say why they have chosen moving parts?	**Pop-up Puppets (Link to 'Toys' topic)** Children will investigate a range of traditional toys including puppets. Using a simple cone design, children to design and create their own moving pop-up puppets, using cone-shaped templates, construction straws and a range of other materials.

Year 1- Summer - DESIGN & TECHNOLOGY (2)		
Design 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	**Make** 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	**Evaluate** explore and evaluate a range of existing products evaluate their ideas and products against design criteria
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Construction	•Can they work as part of a team to design and make a home for one of our class teddies? * Can they talk with others about how they want to construct their product? •Can they select appropriate resources and tools for their building projects? •Can they make simple plans before making objects, e.g. drawings, arranging pieces of construction before	**A Home for Teddy (Link to 'Castles' topic)** Children will investigate a range of homes and building techniques. Discuss need for strength and for home to be appropriate size. Together, offer ideas and design a home for their chosen teddy. Together, make it, sticking as closely as possible to their original design. Encourage

	building?	them to make amendments if needed. Evaluate finished product.

Year 2- Autumn Puppets			
Design ▪ 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	**Make** ▪ 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	**Evaluate** ▪ explore and evaluate a range of existing products ▪ evaluate their ideas and products against design criteria	**Technical knowledge** ▪ build structures, exploring how they can be made stronger, stiffer and more stable ▪ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Programme of Study	**Knowledge, Skills and Understanding**	**Unit/Activity/ Link to scheme of work**
Textiles	•Can they measure textile? •Can they join textiles together to make something? •Can they cut textiles? •Can they explain why they chose a certain textile?	**<u>Animal puppets-link to science</u>** **Investigative, disassembly and evaluative activities** Provide opportunities for children to examine a selection of hand puppets and finger puppets made from a variety of materials. *How has the puppet been put together? What type of fabric has been used? What has been added? Who might the puppet have been made for?*

		How well has it been made? Ask the children to draw one or some of the puppets labelling the different features. Show a video of a range of puppet shows. Discuss with the children the types of puppets, the stories and how they make the characters come to life. Ask each child to find an example of a puppet to bring to the group and talk about **Focused Practical Tasks** Provide an opportunity for children to practise basic sewing techniques *eg starting, ending, running stitch,* using *eg hessian, binca or plastic mesh.* Demonstrate how to use a template to cut out two identical pieces of fabric. Ask the children to explore simple ways to add features and bring characters to life. Discuss how something can be made to look fierce, scary, funny, and so on. Children could practise making templates or patterns allowing for seam allowances. Children could investigate ways of joining two pieces of fabric *eg running stitch,*

		stapling or gluing. Discuss when these techniques might be useful and the advantages and disadvantages of each of them. **Section 3: Design and make assignment (DMA) Design and make a puppet for a purpose** Discuss with the children what puppets are designed for *eg for small children to play with, or for a group of children to produce a short play for story telling with a book, or for entertaining a young child in a car.* As a class, identify simple criteria for the puppets, *eg each puppet must fit the hand of the person using it, they must look like particular characters, the pieces must not come apart.* Ask the children to finish the sentence *'A good puppet should be…'* Remind the children of the techniques they have learnt for making their puppets. Use examples of puppets to talk about ideas that the children might use in their own designs. Show the children how they can adapt a template for the basic shape of their puppet. Encourage them to try out their ideas by making a paper mock-up. This could be used as a paper pattern or they could make their

		own template from thin card. Encourage the children to be accurate when marking out, cutting, joining and finishing. Ask the children to evaluate against the design criteria.

Year 2- Spring Katie Morag winding mechanisms Cooking and Nutrition		
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition	•Can they describe the properties of the ingredients they are using? •Can they explain what it means to be hygienic? •Are they hygienic in the kitchen?	**Celebrations Topic R.E-** Diwali sweets (Hinduism) **Katie Morag Topic Geography** Porridgies (flapjacks)
Mechanisms	•Can they join materials together as part of a moving product? •Can they add some kind of design to their product?	**Investigative, disassembly and evaluative activities.** Show the children toys that have winding mechanisms and/or construct a simple winding mechanism using a construction kit. Discuss with the children what the winding mechanism does and how it works. *What might you need to wind up?* Provide opportunities for children to explore making winding mechanisms in different ways using a selection of construction kits. *How did they construct the winding mechanism? How did they attach the axle so it moves? How can they turn the axle?* Ask them to use a mechanism to wind up something. Ask the children to draw a toy and label the different parts of the mechanism. Children to bring in examples from home. **Focused Practical Tasks**

		Show the children of techniques for holding axles to enable them to turn *e.g. punching holes in the side of a box, using clothes pegs or triangular pieces of card with holes punched.* Demonstrate the techniques and discuss possible difficulties *e.g. what happens when the axles are not parallel.* Show the children how to cut, fix and use appropriate amounts of masking tape, or blue tac, to secure the cotton reels on the axle if there is a loose fit. Remind the children of the correct use of tools and, if necessary, demonstrate and give children the opportunity to practise using specific tools and equipment **Design and make assignment** Read a variety of Katie Morag stories. Ask the children to think carefully about their ideas. *Which winding mechanisms would be most suitable for your toy? How will you construct the winding character? How will you make the background scene? How will you make it strong enough for people to use?* Discuss other design criteria. Ask the children to collect their materials and list the tools that they think they will use. They will draw and label a design of their winding mechanism. Encourage the children to make well-constructed structures. *How is it going to*

		move? How will you join the pieces so that it can move? How could you make it stronger? Where are the weak points? How could you reinforce them? Are there different ways of making this? Which would give the best results? Discuss what they have done and evaluate how well the Katie Morag winding mechanism works in relation to their design criteria.

Year 3- Autumn			
Design 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	**Make** 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	**Evaluate** 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	**Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

Programme of Study	**All the above objectives are common to all DT units.** **Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition (Design and make a healthy sandwich)	Can they choose the right ingredients for a product? Can they use equipment safely?	**<u>This unit of work links to the Year 3 Science topic: Animals, including humans.</u>** **<u>Investigate</u>** Children to look at a range of sandwiches and evaluate them in terms of the 'balanced plate' model of food groups. Children to taste a variety of different kinds of bread, recording opinions on appearance, smell, taste and texture. How are sandwiches packed/sold? Which materials are used and why? What happens to badly packed sandwiches? List occasions when sandwiches are eaten, including special occasions. English – use new vocabulary related to food preferences and food preparation. Maths/ICT – record information on individual charts and combine preferences as a class graph. **<u>Food preparation and hygiene</u>** Discuss the importance of preparing a food area, wearing aprons, and personal hygiene. Explain why some foods are high risk and should be kept in a fridge. Discuss possible dangers, e.g. use of knives, ovens, grills. Look at a series of 'Hi-Genie' posters illustrating

		the dangers. Children to work in pairs to produce their own poster related to food hygiene and safety.
	Can they make sure that their product looks attractive?	**Design a healthy sandwich for a special occasion** Discuss with the children the purpose of the special sandwich, i.e. who it is for and on what occasion. Help children develop criteria for their designs. Guide children through the order of work required. Children to draw design, list ingredients and equipment needed, and write order of work. Science – Use knowledge of food groups and balanced diets from previous lessons. English – Writing instructions, use of time connectives, imperative verbs, use of subject specific vocabulary, e.g. slice, chop, grate, combine, spread.
	Can they set out to grow plants such as cress and herbs from seed with the intention of using them for their food product? Can they describe how their combined ingredients come together?	Ch to grow cress from seed as a filling or decoration for their sandwich. **Make a healthy sandwich for a special occasion** With guidance, children follow their individual design and order of work to make their special occasion sandwich. Explain that they can modify their design by evaluating as they are making. Evaluate the finished product.

Year 3- Spring		
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Mouldable materials	Do they select the most appropriate materials? Can they use a range of techniques to shape and mould?	**<u>Egyptian mummies.</u>** **<u>Investigate and design</u>** As part of their History topic, ch to investigate the process of mummification and burial in Ancient Egypt. Look at pictures of sarcophagi, noting shape and decorative designs. Ch to design own decoration for the outer case of their sarcophagus. **<u>Make</u>** In small groups: 1.Ch to make a rough model of a mummy out of plasticine or clay, about 20 to 30cms in length. 2.Cut strips of modroc about 10cm long and use them to wrap the mummy completely. Leave to harden. 3.The sarcophagus is made by making a mould of the mummy. Protect the mummy by wrapping it tightly with cling film. 4.Roll a sausage of plasticine long enough to fit right round the edge of the mummy to separate the top and bottom of the sarcophagus. 5.Cut up some strips of modroc and modroc one side of the mummy up to the plasticine line, making sure these strips are added evenly and

	Do they use finishing techniques?	smoothed with fingers to make a sarcophagus shape. 6.Leave to set. 7.Peel the plasticine line away carefully, add Vaseline to the modroc edge to prevent sticking. 8.Cut more modroc strips and modroc the second side of the mummy. This will encase the mummy in its 'coffin'. Take care not to overlap the first side with modroc to ensure an easy separation. 9.Leave to dry. 10.Open the sarcophagus and take the mummy out. Unwrap the cling film and discard. 11.Fit the mummy back into the sarcophagus. The three parts should fit perfectly. 12. Paint the bottom half of the sarcophagus with gold paint, and the top half according to own design. **Evaluate** Evaluate the finished product.

Year 3- Summer		
Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Textiles	Can they join textiles of different types in different ways? Can they choose textiles both for their appearance and also qualities?	

Year 4 – Autumn			
Design ▪ 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	**Make** ▪ 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	**Evaluate** ▪ 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	**Technical knowledge** ▪ apply their understanding of how to strengthen, stiffen and reinforce more complex structures ▪ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] ▪ understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Mouldable materials	•Can they use a range of advanced techniques to shape and mould? •Do they use finishing techniques, showing an	Research Victorian money boxes. What were they made out of? Who were they designed for? What sort of

	awareness of audience?	designs were there? Create a 'Research' sheet with pictures of money boxes from the internet and annotations. Create 4 of your own designs for moneyboxes using your research sheet. Try out 3 different materials for making your moneybox – clay, saltdough and plasticine. analyse the materials and write down the pros and cons of each one Decide on which you think would be the best to make a moneybox. Why? Create a final design for your money container, keeping in mind which material you are using. Who is your moneybox designed for? Make the moneybox Paint the moneybox Evaluate your moneybox. Does it do its job? Is it suitable for the audience?

Year 4-Spring		
Cooking and nutrition	•Do they know what to do to be hygienic and safe? •Have they thought what they can do to present their product in an interesting way?	Pizza Discuss food hygiene and safety in the kitchen. Children to create a short booklet called 'Safety in the Kitchen' Research pizza types online and the ingredients used. Children use ipads to create a poster about different pizza. Taste a range of different pizzas and their toppings, evaluate them. Decide on a pizza design for yourself. What ingredients will you use? Visit Pizza Express and make your pizza according to your design Evaluate your pizza according to how it tasted, how it looked, the texture and whether you would have done anything differently if you could make it again. Look at a range of pizza boxes from supermarkets. What are the features of a pizza box? Design your own box for your pizza.

Year 5 Autumn- Biscuits and Christmas Tree decorations			
Design 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	**Make** 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	**Evaluate** 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	**Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**

Cooking and nutrition	•Can they describe what they do to be both hygienic and safe? •How have they presented their product well?	**<u>Biscuits</u>** Children research, design, make and evaluate biscuits to sell at their own biscuit sale afternoon. **<u>WALT create a health and hygiene poster</u>** Discuss what chn think they need to do when dealing with food and baking. Develop a list with the chn e.g. wash hands, tie hair back, wear an apron, clean all work surfaces and equipment, don't cough (wash hands if so), don't touch face/hair etc whilst baking, don't lick fingers and continue etc. Chn create a poster on food safety and hygiene. **<u>WALT create and conduct a survey to help create a design for a well finished product</u>** Working in groups, chn make a biscuit company. Conduct market research on the sample of people who will be buying the biscuits to help them decide: -shape -packaging -topping -filling -style **<u>WALT design a Christmas biscuit using research</u>**

		Using the above research, design biscuits with suitable toppings and shape etc. Pick a final design justifying choice. **<u>WALT write a method for making biscuits</u>** Chn will write instructions for how to make biscuits in their personal design. **<u>WALT safely make and bake biscuits</u>** Chn use their hygiene posters and methods to create their biscuits and decorate for a biscuit sale. **<u>WALT plan an enterprise afternoon</u>** Decide who will be responsible for money and change, who will be in charge of the biscuit serving and who will entertain in band etc. Chn also need to work out the cost of their biscuits and calculate profit. **<u>WALT create a company name and poster</u>** Children design posters to sell their products and make sure their products follow their designs accurately. **<u>WALT evaluate biscuits and biscuit company</u>**

		Chn calculate their actual profit. They evaluate their design and explain the problems faced etc. Consider points to improve next time.
Mouldable materials	•Are they motivated enough to refine and further improve their product using mouldable materials?	Christmas decorations **WALT design a Christmas tree decoration** Draw and design sensible tree decorations using: - paint - glitter - sequins - Choose a final design. **WALT make a Christmas decoration**. Chn will use cardboard and mod roc to mould a design for a decoration. They will paint it and decorate it. **WALT evaluate a Christmas decoration** Chn evaluate their design and explain the problems faced. Explain how they could improve next time e.g. smoother mod roc, less complex shape, less complex design etc.

Year 5			
Design 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,	**Make** 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,	**Evaluate** 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	**Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	textiles and ingredients, according to their functional properties and aesthetic qualities		

Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Stiff and flexible sheet materials	•Are their measurements accurate enough to ensure that everything is precise? •How have they ensured that their product is strong and fit for purpose?	**WALT investigate and design geometric patterns** Look at examples of circles in Islamic architecture. Circles play an important role in Islamic Architecture as they have no end, reminding Muslims that Allah is infinite. Complete activities using circles and lines with rulers and compasses. **WALT compare different photograph frame stand structures.** Find free standing frames and investigate the ways in which they stand up and also how the photo goes inside. Record findings. **WALT create a photo frame using Islamic geometric patterns**

		Children will create 2-3 designs for an Islamic geometric patterned photo frame using a compass. They will use overlapping circles with a compass for the frame and will make a separate jewel using overlapping circles to go at the top of the frame. Chn will colour each design differently ensuring they use traditional Islamic colours from Islamic art. **WALT measure and make a stable photograph frame for photograph.** Model to chn how to make a frame. Children will measure an A5 frame for a 6" x 4" photo. They will carefully cut out their measured frame using a craft knife. They will draw on their final design using a compass to create it and colour using felt tips. **WALT investigate different stands for a photograph frame to find out which is strong and fit for purpose.** Show chn a range of stands and discuss and investigate the different stands in groups and test them for stability. Chn will pick the stand type they will use and make their own. **WALT evaluate our photograph frame**. Children will compare their frame to their design. They will then look at the criteria they aimed for and evaluate their frame against certain points e.g. who is it for, does he design match, does the design work, does the frame stand up, does the photo slide in easily, is the frame suitable, etc.

Year 5- Summer			
Design 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	**Make** 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	**Evaluate** 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	**Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Textiles	•Do they think what the user would want when choosing textiles?	Bags/sunglasses case design or something. This bag would go with them to a coastal region as a

	•How have they made their product attractive and strong? •Can they make up a prototype first? •Can they use a range of joining techniques?	sunglasses case. **<u>WALT investigate different types of fabric sunglasses cases</u>** Research a range of sunglasses cases in order to see how they are made, how they fasten etc. **<u>WALT design three sunglasses cases based on what the user would want</u>** First chn decide who their sunglasses case is for and consider their interests, favourite colours and the style they would most like. Bearing this in mind, chn create three labelled sunglasses case designs. Chn create a simple design that will be easy to make using felt. **<u>WALT use different stitches on a prototype.</u>** In small groups, chn will be taught how to use different stitches- running stitch, backstitch, blanket stitch and cross stitch. They will use scrap felt as a prototype. **<u>WALT create a sunglasses case using joining techniques</u>** In small groups chn will sew their sunglasses case using various sewing techniques. Pick most suitable techniques so that it will be strong.

		- **<u>WALT evaluate a final design.</u>** Chn complete evaluation. Example questions: -does your case look like your final design. -does it work? -did you encounter any problems? -do you have any tips for someone making a case? -what could you improve next time? What would you rate your case out of ten? Why? Is it suited to the person you made it for? Have you learned any new words? How can you join things when sewing?

Year 6- Autumn			
Design 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	**Make** 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	**Evaluate** 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	**Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition	•Can they explain how their product should be stored with reasons?	

	•Can they set out to grow their own products with a view to making a salad, taking account of time required to grow different foods?	
Textiles	•Have they thought about how their product could be sold? •Have they given considered thought about what would improve their product even more?	Use of felt, thread and beading to create the annual calendar. Research into the work of Bridget Riley and optical illusions in her work.
Electrical and mechanical components	•Can they use different kinds of circuit in their product? •Can they think of ways in which adding a circuit would improve their product?	Design and make a model car using circuit with motor. *Electrical Vehicles:* *Chdn will design and make an electrical vehicle. They will look at the shape, different sections, chassis of vehicles and talk about aerodynamics. They will be required to design a circuit to power the vehicle.*
Stiff and flexible sheet materials	•Can they justify why they selected specific materials? •How have they ensured that their work is precise and accurate? •Can they hide joints so as to improve the look of their product?	*Electrical Vehicles:* *They will need to think about strong materials, e.g., wood for axles, card for body work and chassis, but which are also light weight to ensure they vehicle can move.*
Mouldable materials	•Can they justify why the chosen material was the best for the task? •Can they justify design in relation to the audience?	

Year 6- Spring			
Design 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	**Make** 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	**Evaluate** 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	**Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition	•Can they explain how their product should be stored with reasons?	

	•Can they set out to grow their own products with a view to making a salad, taking account of time required to grow different foods?	
Textiles	•Have they thought about how their product could be sold? •Have they given considered thought about what would improve their product even more?	
Electrical and mechanical components	•Can they use different kinds of circuit in their product? •Can they think of ways in which adding a circuit would improve their product?	
Stiff and flexible sheet materials	•Can they justify why they selected specific materials? •How have they ensured that their work is precise and accurate? •Can they hide joints so as to improve the look of their product?	Investigate different types of bug hotels. Make an individual bug hotel and maintain class bug hotel in nature area. Small groups with high level of adult support. Encourage to measure accurately and create different environments using a variety of material.
Mouldable materials	•Can they justify why the chosen material was the best for the task? •Can they justify design in relation to the audience?	

Year 6- Summer			
Design 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	**Make** 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	**Evaluate** 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	**Technical knowledge** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.

Programme of Study	**Knowledge, Skills and Understanding**	**Activity/ Link to scheme of work**
Cooking and nutrition	•Can they explain how their product should be stored with reasons?	*Link to a healthy diet: Chdn will grow their own salad foods. They will secure a raised bed*

	•Can they set out to grow their own products with a view to making a salad, taking account of time required to grow different foods?	*and sow seeds as well as planting seedlings with a view to harvesting latter in the term. They will plant a variety of lettuces, spring onions, radishes, broad beans and herbs. Next year hopefully earlier planning will mean a crop of tomatoes will also be grown. (Planting of seeds may have to begin in the Spring term to ensure a harvest before the end of the Summer term.*