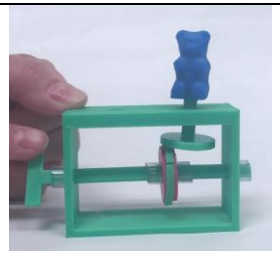
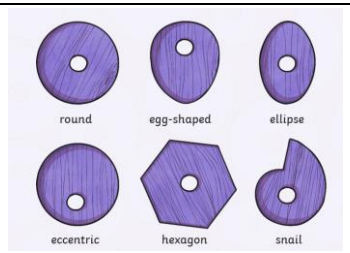
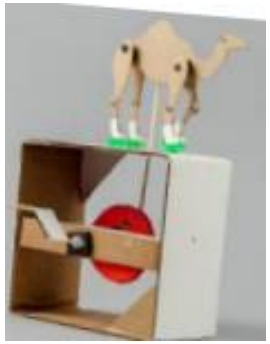
Design Technology Medium Term Planning
Year 5

Construction	Mechanisms	Sewing/ textiles	Cooking and nutrition	Woodwork

Topic	Knowledge	Children will be able to...	Prior Knowledge	Key Vocabulary
Egyptians	To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. To select from and use a wider range of tools and	**Project objective: I can create a moving toy using a CAM mechanism.** • To research and explore how Pear shaped CAM mechanism works. To name different types parts and explore how they work together to make movement. To watch a video of a toy using a CAM mechanism and explain how it works. To explore and work with a partner/ in a group to create a prototype CAM mechanism. To name the different types of CAM mechanisms. To explore how products have been created To plan my idea and consider how to implement it using inspiration from real life and pictures. Use different pencils to sketch considering size, shape and different features. Create observational drawings and consider how they will create design.	Children can produce a plan and explain it. Be able to choose appropriate materials and components Be able to choose tools and materials and explain why they have chosen them. Be able measure materials to use in a structure or a model (using a ruler, measuring tape) Be able to assemble, combine and join	design, evaluate, better, material, prototype, cutting, shape, cardboard, rotary motion, linear motion, CAM mechanism, crank, handle, wood, cardboard

	equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. To select from and use a wider range of materials and components, including construction materials.	  • To design and sketch a moving toy with a pear shaped CAM mechanism to make a camel toy appear to rise and fall. To add annotations with materials, resources, colours and size measurements.  To covert a rotary motion into a linear motion (rise and fall) through the use of a pear-shaped cam mechanism and crank, enabling the camel to move up and down over the sand. (partner work) Create products using CAM to create a moving toy Use tools safely e.g. scissors and a saw With confidence cut materials safely using the tools provided. To demonstrate a range of cutting and shaping techniques. (Cutting, folding, curling, tearing) To measure and mark out with increased accuracy (Nearest mm) • To evaluate the design the effectiveness of the design and how they could further develop their idea with more time. E.g/ changing	materials and components together using a variety of methods to ensure movement. Children can evaluate and suggest improvements for their design by considering the purpose and appearance. Children can explain how they have improved their original design. Children can persevere and adapt their work when their original ideas do not work.	

		the shape of the CAM impacting the movement. Adding more than one CAM. To explain what went well with my work. To evaluate my work. Explain what was easy and what was hard. Improvements to be made in future projects. Consider effectiveness and fitness for purpose.		

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Flow	To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. To 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. To evaluate their ideas and products against their own design criteria and	**Project objective: I can design and make a lighthouse where the bulb lights up using a switch.** Throughout the topic, discuss Thomas Edison who invented the light bulb Nationality- American • To research and explore lighthouses. To test electrical circuits to make a bulb work. To explore how products have been created To plan my idea and consider how to implement it using inspiration from real life and pictures. Use different pencils to sketch considering size, shape and different features. Create observational drawings and consider how they will create design. • To plan and design their 3D model of a lighthouse using an **exploded diagram design**. • To create a 3D model of a Use a range of junk modelling materials. To complete a circuit to make the light shine. To choose and use appropriate tools and resources effectively.	Children will recall vocabulary used for electricity. Children will have used a circuit within a piece of DT work. Children would have added a buzzer to their DT work. Children will think of an idea and plan what it will look like. Children can choose tools and materials and explain why they have chosen to use them. Children can explain what went well with	design, evaluate, material, prototype, cutting, junk modelling, cardboard, sketch, create, make, circuit, purpose, evaluation, improvements, changes, lightbulb, wires, batteries, current, flow, connection

	consider the views of others to improve their work. To apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	To choose tools and materials and explain why I have chosen them. (Boxes, bottles, tissue rolls, bubble wrap, fabric, foil, scissors, glue gun, sticky tape.) To measure materials to use in a structure or model. (Using a ruler, measuring tape) To assemble, combine and join materials and components together using a variety of temporary methods e.g glue and masking tape. To make my model stronger and join items together. Measure, mark, cut and shape materials and components To use and choose appropriate finishing techniques to improve the appearance of their product • To evaluate their lighthouse against a set of criteria thinking about improvements which could be made. To explain what went well with my work. To evaluate my work. Explain what was easy and what was hard. Improvements to be made in future projects. Consider effectiveness and fitness for purpose.	their design to write a detailed evaluation. 	

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Traders and Raiders	To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.	**Project objective: I can follow a recipe to make an item of food which is edible.** Throughout the topic discuss Mary Berry who is famous for her baking. • To research and know explore foods and drinks the Anglo Saxons ate and drunk. To know Anglo Saxons ate wild animals like deer and boars. To say whether the foods are still eaten today and whether I would have liked to have eaten these. To follow correct cutting instructions e.g. claw and bridge. Consider ingredients and instructions for making a food dish. • To use a recipe to draw what Honey, Oat and Spiced Cakes will look like. I can add annotations. I can add ingredients and equipment I will need to make them. (design stage) • To follow a recipe to make a dish that was popular in Anglo Saxon times. - **To make Honey, Oat and Spiced Cakes** http://cookit.e2bn.org/historycookbook/958-honey-oat-and-spiced-cakes.html To use equipment safely and correctly. To cut, peel or grate ingredients safely To cut food safely and hygienically	Children will know where different food originates from. Children will need to know how to follow instructions/recipe. Children know how to hold specific equipment correctly and safely. Children will be able to cut, peel or grate ingredients safely and hygeinically Children will be able to measure or weigh using measuring cups and scales. Children will be able to follow safe procedures for food safety and hygiene whilst cooking.	Anglo Saxon, food, drink, farmers, hunters, feast, hall, flour, oats, rye, bread, barley, beer, mead, vegetables, onions, cabbage, peas, parsnip, deer, wild boar, goblets, horns, drink, recipe, instruction, tool, equipment, ingredients, recipe, dish, flavour, taste, bitter/sweet, evaluate, evaluation, positive, negative,

		To measure or weight using measuring cups or electric scales To assemble or cook healthy ingredients To understand where food comes from To understand what a recipe is. Ingredients and instructions for making a food dish To follow safe procedures for food safety and hygiene whilst cooking. Wash your hands before and after touching food, tie any long hair back, wear an apron, wash vegetables before cooking, move carefully and safely in the kitchen, wipe up any spillages, be careful when your using knives, use oven mitts when moving hot pans, wash all utensils in hot, soapy water. To name cooking equipment required for my recipe.(Hob, oven, measuring jug, measuring scales, chopping board, knife) To describe the ingredients I am using. (onions, potatoes, carrots, leek, peas, tomatoes) To use the correct cutting technique to cut vegetables. (Claw and bridge) • To taste and evaluate the Anglo Saxon dish they have made. Consider effectiveness and fitness for purpose. To explain what went well with my work. To evaluate my work. Explain what was easy and what was hard. Improvements to be made in future projects. Consider effectiveness and fitness for purpose. • To write out instructions on how they created the Anglo Saxon dish.	Children will be able to name cooking equipment Children can describe the ingredients and equipment they need to follow a recipe. 	

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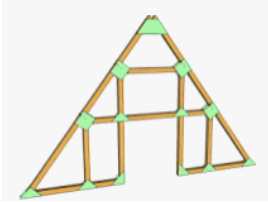
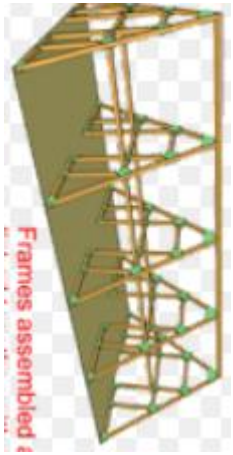
Vikings	To use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. To select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities To understand how key events and individuals in design and technology have helped shape the	**Project objective: I can design and make a free standing Viking Long House.** • To research and explore what Viking long houses looked like in the past. To look at photographs of Viking long houses and describe the materials used to build them. -Vikings lived in a long, narrow building called a longhouse. Most had timber frames, with walls of wattle and daub and thatched roofs. ... Two rows of high posts supported the roof and ran down the entire length of the building, which could be up to 250 feet long. The floor of the Viking longhouse was pounded earth. To explore how products have been created • To use photographs as inspiration to plan and design my Viking Long House. To label my Viking Longhouse with the materials and equipment I will need to make it. To plan my idea and consider how to implement it using inspiration from real life and pictures. Use different pencils to sketch considering size, shape and different features. Create observational drawings and consider how they will create	Children will be able to create observational drawings and consider how they will create their design. Consider how a product fits the needs of individuals. Children will use their knowledge and experience of how to attach items together. Be able use appropriate tools to measure. Be able to use a saw and glue gun safely.	Vikings, long house, timber, wood, walls, wattle daub, thatched, roof, posts, building, floor, structure, draw, sketch, alter, design, 3D, create, design, detail, fold, bend, stiffen, reinforce, strengthen, fix, glue, wood work, measure, adapt, evaluate, , positive, negative, 

	world. To apply their understanding of how to strengthen, stiffen and reinforce more complex structures. To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	design. • In groups of 4-6 children use wood work to make a 3D Viking long house. Use wood for the structure and straw for the roof structure, reinforcing joints with card. To use tools accurately including a saw, vice and glue gun. To choose tools and materials and explain why I have chosen them. (Junk modelling materials, base, wood) To cut materials safely using the tools provided. To measure materials to use in a structure or model. (Use of a glue gun, saw, measuring ruler, wood. Base, junk modelling materials.) To measure and mark out to the nearest centimetre To join materials and components in different ways following health and safety rules. To demonstrate a range of cutting and shaping techniques. (Cutting, folding, curling, tearing) To use materials to practice screwing, gluing to make and strengthen products. To assemble, combine and join materials and components together using a variety of temporary methods • To evaluate their final product and consider what worked well and what improvements could be made. To explain what went well with my work. To evaluate my work.	They will know what a long house is and what one looks like. 	

		Explain what was easy and what was hard. Improvements to be made in future projects. Consider effectiveness and fitness for purpose.		

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Machines and Inventions	To 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. To select from and use a wider range of materials and components, including construction materials, textiles and ingredients,	Throughout the unit discuss Coco Chanel Nationality- French **Project objective: I can design and make a bag to hold an item of my choice.** • To look at different photographs and designers of bags and discuss them- what makes them appealing. Write about one of the bags the designer and the design. (Stella McCartney, Marc Jacobs, Louis Vuitton, Gucci, Radley's etc...) To explore how products have been created • To design and sketch their own bag for a specific purpose, thinking about the colour, size, shape and design. To plan my idea and consider how to implement it using inspiration from real life and pictures. Use different pencils to sketch considering size, shape and different features. Create observational drawings and consider how they will create design. • To be an inventor and create their own bag using sewing techniques. To shape textiles using templates To sew using a needle and thread. (Use a running stich)	Children will have explored different types of stitch to join two pieces of material together Children will have measured and marked out material to the nearest mm allowing for the pattern and seam allowance. Children will be able to design a product and evaluate it in detail.	design, draw, sketch, create, make, material, felt, fabric, needles, sew, sewing, purpose, evaluate, evaluation, positive, improvements, changes, alter, adjust,

	according to their functional properties and aesthetic qualities. To understand how key events and individuals in design and technology have helped shape the world.	Colour and decorate textiles using a range of techniques (Dyeing, adding sequins, printing, fabric pens) Cut, shape and join fabric to make a simple design To use a sewing needle safely. To thread cotton onto a plastic needle. To sew two pieces of material together with guides given. To use fabric glue to add decorated pieces e.g. facial features, spots, stripes. • To evaluate the product they have made thinking about the design and whether it is the same or if changes were made. To explain what went well with my work. To evaluate my work. Explain what was easy and what was hard. Improvements to be made in future projects. Consider effectiveness and fitness for purpose.