DT Curriculum Coverage: UKS2

Expected Vocabulary. NC Objectives. Intended activities. Additional knowledge for prior learning

These skills/activities can be taught weekly or in a block as appropriate and will fit around the art scheme which are shorter units of 4 weeks.

Topic and Year	National Curriculum Objective	Knowledge/Activity	Vocabulary
Year 5 Autumn **Why did the Vikings invade?** TEXTILES	Investigate and analyse a range of existing products. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Select from and use a wider range of tools and equipment to perform practical tasks accurately. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Link to Viking weaving to make clothes or sewing for making a pouch with a decorative Viking pattern. How were they made? Discuss use of materials for function and aesthetic qualities. Develop design criteria. Design an item to weave/sew linking to Vikings. Children practise skill of sewing (cross stitch or similar stitch building on running stitch from LKS2) or weaving. Make their product using modelled skill. Evaluate the finished product.	Textiles/fabric/material Cross stitch/other stitch Tapestry Embroidery Joining Tacking finishing Design Evaluate Count Aida Thread Job – seamstress/designer
Spring What is the landscape of North America like?	Understand how events and individuals in design and technology have helped shape the world.	Geography link - to learning about North America and research about existing bridges such as Golden Gate bridge. Understand about the work of the designer of the bridge linked to history.	Job – engineer/architect Structure Bridge parts e.g. Suspension

CONSTRUCTION Possible link to mechanisms as a challenge	Investigate and analyse a range of existing products. 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. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Additional: Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. 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. Select from and use a wider range of tools and equipment to perform practical tasks accurately. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Science link to properties of materials. Investigate the design of bridges for functional and aesthetic qualities including shape, strength and parts of the bridge for the design criteria. Design their bridge to suit a given brief. This could also include a drawbridge as additional challenge linking to mechanisms. Practise skill using materials to test out different bridge materials such as string/wire (cables) and wood (deck/towers). Make their bridge using chosen construction materials and tools. Evaluate and test their bridge to meet the function/strength with added weights.	**Cable** **tower** **Pier** **Deck** strength
Summer **Who were the Ancient Mayans?** COOKING	Understand the basic principles of a healthy and varied diet.	History link to learning about the Mayans – research what foods did they grow/eat? Children to taste different ingredients linked to Mayan foods (types of chocolate/taco ingredients) and evaluate them for flavour/texture/nutritional benefits.	**Job – chef, dietician** **Diet** Savoury/Sweet Fresh/processed raw

	Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. 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 their ideas and products against their own design criteria and consider the views of others to improve their work.	Link to learning about healthy diets and food groups. Design a recipe dish using these ingredients using design criteria including food groups, appetising, appealing to eat. Children to make their design (in groups with adult). Practise cookery skills appropriate to recipe e.g. chopping/melting using appropriate tools and techniques. Discuss rules for safety and hygiene using equipment/ingredients. Taste and evaluate their recipe.	Reared Seasonal produce **Appetising** **Flavoursome** Food pyramid **nutritional** **Hygiene** **Ingredients** **Melt/boil/simmer/fry**
Year / Topic	NC Objective	Activity	Vocabulary
Year 6 Autumn **How do you investigate a crime scene?** CONSTRUCTION	Investigate and analyse a range of existing products. 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. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Select from and use a wider range of materials and components, including construction	History link - learning about crime in history, the use of cages for punishments in past time periods. Research and label different types of existing jails/cages with their parts. Discuss different shapes of cages for function/strength by making a prototype and use learning to develop design criteria. Design their own wooden cages on wheels in pairs/small groups using the design criteria/diagrams and choice of cage shape suitable. Practise skills using sawing/shaping using appropriate tools. Discuss safe use of tools and protective equipment such as goggles. Make their wooden cage from pieces of wood, wheels, paint and glue guns with adult supervision. Evaluate their cage against the design criteria.	Job – carpenter **Hacksaw** **Clamp** **Sawing** **sanding** Protective equipment Cage parts eg. **Bars** **Cell door** wheels

	materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Select from and use a wider range of tools and equipment to perform practical tasks accurately. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.		
Christmas additional activity OR Spring **Why do we remember The Battle of Britain?** COOKING	Understand the basic principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. 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 their ideas and products against their own design criteria and consider the views of others to improve their work	RE link - Christmas cake –origins of cake/tradition. History link - Ration cake – link to learning about rationing in the war. Research ration amounts and types of recipes they made using ingredients. Discuss ration diet with links to food groups and where the ingredients came from during the war. Taste ingredients in the basic recipe and evaluate any additional decorative parts. Design the shape/decoration to make it appealing. Make Christmas/ration cake. Children will weigh out ingredients (links to measuring in maths), bake the cake and then decorate using icing and other chosen materials. Children will taste/evaluate and assess what they would do differently next time to improve the taste. Also collect views of other tasters and take suggestions for improvements. Writing link – recipe instructions.	**Job – chef, baker, dietician** **Weigh/measure** Ingredients **Decorate/ice** **Flavours** Evaluate **Combine** **Bake** **temperature**
Summer Do all rivers lead to the sea? MECHANISMS/additional opportunity for ELECTRICAL SYSTEMS	Understand and use mechanical systems in their products. *Additional if appropriate* - Understand and use electrical systems in their products. Investigate and analyse a range of existing products.	Explore different types of mechanisms– pulleys, levers, gears, sliders, cams etc. Practise how they work/make and test them. Design their own gadget/reinvent an existing gadget for a purpose with a mechanism such as a grabber. Include a technical drawing – links to computing by using an appropriate computer program to design their gadget and if possible show how the mechanism will work. Additional challenge - this also include an	**Job – mechanical engineer, electrician** **Mechanism** **Mechanism parts e.g Pulley, lever, gear, cam, slider** Electrical vocab: Motor

	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Apply their understanding of computing to program, monitor and control their products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	electrical component such as a motor to move the mechanism. Make their design using the criteria using appropriate materials. Evaluate/test their mechanism.	Switch Wires/circuit Battery Control program