

Year group: 4	Subject Area: Design Technology	Unit 1 – Food Technology	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
To describe how food ingredients come together. To weigh out ingredients and follow a given recipe to create a dish. To talk about which food is healthy and which food is not. To know when food is ready for harvesting (Y3).	<ul style="list-style-type: none"> • Understand and apply the principles of a healthy and varied diet. • Prepare and cook a variety of predominantly savoury dishes using a range of cooking technique. • Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for a purpose. • Select from and use a wider range of tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing, accurately. 	To be both hygienic and safe in the kitchen. To know how to prepare a meal by collecting the ingredients in the first place. To know which season various foods are available for harvesting (Y5).	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
Linked to Pugs of the North text.	Geography: tropics and the equator English: linking to explorers from Pugs of the Frozen North	Showing rations of what Arctic Explorers would take on an expedition.	
Lesson Sequence			
To understand a healthy and balanced diet. To know how to be both hygienic and safe when using food.	To use ideas from other people when designing.	To bring a creative element to the food product being designed.	To know which tools to use for a particular task and show knowledge of handling the tool. To measure accurately. To know how to be both hygienic and safe when using food.
Lesson 1: Discuss the importance of a healthy and balanced diet. Recap the food groups, nutritional information. Discuss the terms hygienic and safety and understand the importance.	Lesson 2 and lesson 3: Research the types of food arctic explorers eat. Discuss the nutritional value and how their diets may be different to ours. Understand seasonality and know where and how ingredients are grown. Create a poster for a chosen food, using the research found and nutritional elements.	Lesson 4: Create a recipe for a product, e.g. polar pate, sledging biscuits, bannock. When creating the recipe, think about what could be changed or added. Add recipe to art and DT books.	Lesson 5 and lesson 6: Recap hygiene and safety when handling, preparing and making food. Measure ingredients accurately and follow the recipe carefully. Add an image of the food to art and DT books.

Key Vocabulary			
Healthy Balanced Diet Nutrition Hygiene Safety	Nutrition Diets Balanced Arctic	Recipe Design Instructions	Hygiene Safety Handle Prepare Make Measure Ingredients Recipe
Key skills throughout unit			
<ul style="list-style-type: none"> • To understand the principles of a healthy and varied diet. • To be able to prepare and cook a recipe using the appropriate tools and techniques. • To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 			

Year group: 4	Subject Area: Design Technology	Unit 2 – Mechanisms	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
Know how to strengthen a product by stiffening a given part or reinforce a part of the structure (Y3)	<ul style="list-style-type: none"> • 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 tasks. • Select from and use a wide range of materials and components. • Understand and 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. 	Produce a detailed, step by step plan. Design a product that requires pulleys or gears. Link scientific knowledge to design by using pulleys or gears. Make a product that relies on pulleys or gears. Use more complex IT program to help enhance the quality of the product produced (Y5)	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
Children will be taught circuits in Science lessons.	Science: Electricity Maths: Geometry 3D shapes English: The Wild Robot text and The Iron Man.	Mrs Millican's 3D model of the Iron Robot. Watch The Iron Giant film.	

Lesson Sequence				
To communicate ideas in a range of ways, including by sketches and drawings which are annotated. To links scientific knowledge by using lights, switches or buzzers.		To make a product which uses both electrical (simple circuit) and mechanical components.	To use electrical systems to enhance the quality of the product. To persevere and adapt work when original ideas do not work.	To evaluate and suggest improvements for design. To use IT, where appropriate, to add to the quality of the product. To explain how the original design has been improved.
Lesson 1: Show examples of light boxes and explain that the children will be learning about electricity in Science. Discuss ways of creating a box/cube. Explore different cube nets. Create a plan for a light box with drawings.	Lesson 2: Explore moving paper mechanisms with inputs and outputs. Create a mechanical component with levers and linkages using card and split pins, etc.	Lesson 3 and Lesson 4: Explore different materials in the construction of a decorative light box, e.g. cardboard, paper and create a box with a design. Select appropriate tools. Add the moving mechanism to one of the sides.	Lesson 5: Explore the ways in which a light box may be illuminated, e.g. simple circuits with one or more bulb. Children to explore making their own simple circuits and then create a more permanent circuit to fix inside the light box. Add photograph into art and DT books.	Lesson 6: Evaluate the light box and suggest ways to improve designs. Use the current evaluation and think about using IT resources to modify original plan and explain what has been improved and why.
Key Vocabulary				
Cube 3D shape Net Plan	Moving mechanism Input Output Component Lever Linkage	Materials Component Make Join Fold Tools	Switch Bulb Wires Batteries Circuits Electrical	Evaluate Improvements
Key skill throughout unit				
<ul style="list-style-type: none"> • To understand and use electrical systems in their products. • To create a moving mechanism. • To select appropriate tools, equipment and materials. 				

Year group: 4		Subject Area: Design Technology		Unit 3 – Textiles		Subject Leader: H Cassidy	
Prior linked knowledge		National curriculum objectives				Future linked knowledge	
Choose a material for both its suitability and its appearance. Join textiles of different types in different ways. Choose textiles both for their appearance and also qualities. Explain how to improve a finished model (Y3).		<ul style="list-style-type: none"> • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. • Generate, develop, model and communicate their ideas through discussion. • Select from and use a wider range of tools and equipment to perform practical tasks. • Select from and use a wide range of materials and components. • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 				Use a range of tools and equipment competently. Evaluate appearance and function against original criteria (Y5).	
Notes		Cross-curricular links				Possible hooks/enrichment activities	
Have a range of musical instruments to explore.		Science: Sound – identifying how sounds are made and recognising the vibrations, patterns and pitch.				Exploring sounds within the rainforest and using body percussion and objects around the room to replicate.	
Lesson Sequence							
To produce a plan and explain it. To think what the user would want when choosing textiles. To know which material is likely to give the best outcome.				To evaluate products for both their purpose and appearance.		To present a product in an interesting way.	
Lesson 1: Explore different musical instruments and the sounds they make. Children to choose a musical instrument they would like to make and explore different materials that make a similar sound.		Lesson 2: Create a plan for a chosen musical instrument. Write down the materials and tools needed to make.		Lesson 3 and 4: Create a musical instrument, selecting appropriate tools and materials. Add image of product to art and DT books.		Lesson 5: Write an evaluation for the product. Think about what worked well in relation to purpose and appearance. Use this lesson to make any amendments.	
Lesson 6: In groups, create a short performance to present in front of the class/all of Year 4.							
Key Vocabulary							
Musical instruments Sounds Materials		Plan Materials Tools Equipment		Materials (e.g. beads, string, felt, tissue paper, etc.) Tools Equipment		Evaluate Purpose Appearance Amendments	
Perform Skills Rhythm							
Key skill throughout unit							
<ul style="list-style-type: none"> • To research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. • To select appropriate tools, equipment and materials. • To generate, develop, model and communicate their ideas through discussion. 							