

Year group: 1		Subject Area: Design Technology		Unit 1 – Exploring Mechanisms		Subject Leader: H Cassidy	
Prior linked knowledge		National curriculum objectives				Future linked knowledge	
Handle equipment and tools effectively, including pencils for writing. Safely use and explore a variety of materials, tools and techniques (EYFS)		<ul style="list-style-type: none"> • Explore and use mechanisms - for example, levers, sliders, wheels and axles, in their products. • Explore and evaluate a range of existing products. • Evaluate their ideas and products against set criteria. • 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 and materials. 				Use joining, folding or rolling to make a product stronger and more stable. Incorporate some types of movement into models. Join materials and components in different ways (Y2)	
Notes		Cross-curricular links				Possible hooks/enrichment activities	
		History: old and new toys English: writing instructions				Explore old and new toys	
Lesson Sequence							
To explore mechanisms.		To design a product that moves.		To choose appropriate resources and tools for a specific task use them appropriately and safely.		To make a product that moves. To choose appropriate resources and tools for a specific task and use them appropriately and safely.	
To describe how something works. To explain what went well with their work							
Lesson 1: Explore the term mechanisms. Look and discuss different toys and how they move.		Lesson 2: Chosen model for whole class to be looked at in detail. Discuss how the model moves and what materials have been used.		Lesson 3: Discuss the materials that will be used when creating the chosen model. Explore joining the materials together to see what works best.		Lesson 4 and Lesson 5: Create a model using appropriate resources and tools effectively and safely. Add an image of the final product to art and DT books.	
Lesson 6: Discuss the model; creating an evaluation.							
Key Vocabulary							
Movement Push Pull Join Wheels		Movement Materials		Movement Materials Join Tools		Movement Tools Materials	
Evaluation Movement							
Key skill throughout unit							
<ul style="list-style-type: none"> • To design and make a purposeful product selecting appropriate tools. • To generate ideas through discussion. • To evaluate own product. 							

Year group: 1	Subject Area: Design Technology	Unit 2 – Food Technology	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives		Future linked knowledge
Know the importance for a healthy diet, and talk about ways to keep healthy and safe (EYFS)	Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.		Weigh and describe ingredients in a recipe and explain what it means to be hygienic (Y2)
Notes	Cross-curricular links		Possible hooks/enrichment activities
Linked to The Giant Jam Sandwich text	English – write instructions to a recipe		Trip to Asda to buy ingredients
Lesson Sequence			
To know how to wash hands and make sure surfaces are clean. To understand and discuss where food comes from.		To know how to wash hands and make sure surfaces are clean. To cut food safely. To describe the texture of foods	
Lesson 1: Look at and discuss the words safety and hygiene. Children to recap how to wash their hands carefully. Discuss and understand the basic principles of what is meant by a healthy and varied diet.	Lesson 2: Explore where food comes from, e.g. farms, fruit growing on tree, growing wheat for bread.	Lesson 3: Discuss the equipment and ingredients needed for the recipe. (The ingredients could be bought from Asda in this lesson).	Lesson 4 and Lesson 5: Recap hand washing and making sure surfaces are clean before following the instructions for the recipe. Add an image of the food to art and DT books. Discuss what went well during the making of the recipe. Talk about and describe the appearance and texture of the food.
Key Vocabulary			
Safety Hygiene Wash Soap Water Healthy Varied diet Eat well plate	Farmers Fields Animals	Recipe Ingredients Cutlery Knife Chopping board	Recipe Instructions Ingredients Hygiene Cutlery Knife Chopping board Texture Appearance
Key skill throughout unit			
<ul style="list-style-type: none"> • To understand where food comes from. • To have knowledge of a healthy and balanced diet. • To have knowledge of hygiene and safety. To know how to cut food.			

Year group: 1	Subject Area: Design Technology	Unit 3 – Moving Mechanisms	Subject Leader: H Cassidy	
Prior linked knowledge	National curriculum objectives		Future linked knowledge	
Handle equipment and tools effectively, including pencils for writing. Safely use and explore a variety of materials, tools and techniques (EYFS)	<ul style="list-style-type: none"> • Explore and use mechanisms - for example, levers, sliders, wheels and axles, in their products. • Explore and evaluate a range of existing products. • Evaluate their ideas and products against set criteria. • 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 and materials. • Design purposeful, functional, appealing products for themselves and others users based on design criteria. • Generate, develop, model and communicate their ideas. 		Use joining, folding or rolling to make a product stronger and more stable. Incorporate some types of movement into models. Join materials and components in different ways (Y2)	
Notes	Cross-curricular links		Possible hooks/enrichment activities	
Children to create moving models of lighthouses.	Geography: Local lighthouses History: Grace Darling Science: Light		Class trip to Souter Lighthouse and Roker Beach.	
Lesson Sequence				
To use own ideas to design something and describe how their own idea works. To design a product that moves.	To use own ideas to make something. To make a product that moves. To choose appropriate resources and tools for a specific task and use them appropriately and safely.		To describe how something works. To explain what went well with their work.	To experiment with how to make own model stronger.
Lesson 1: Recap how different models move. Children to create their own ideas for a model/structure and write a plan.	Lesson 2: Discuss the materials that will be used when creating the individual models. Explore using appropriate materials to ensure the models can move.	Lesson 3 and Lesson 4: Create individual model. Ensure the product can move effectively. Add an image of the final product to art and DT books .	Lesson 5: Discuss the model; creating an evaluation. Think about how to make the product stronger if they were to make it again.	Lesson 6: Experiment with different materials and carry out tests to see which materials make own model stronger. E.g. using card or wooden sticks.
Key Vocabulary				
Movement Push Pull Join Wheels	Movement Materials	Movement Materials Join Tools	Evaluation Movement	Testing Stronger Sturdy Materials
Key skill throughout unit				
<ul style="list-style-type: none"> • To design and make a purposeful product selecting appropriate tools. • To generate ideas through discussion. • To evaluate own product. 				

Year group: 2	Subject Area: Design Technology	Unit 1 – Mechanisms/Structures	Subject Leader: H Cassidy	
Prior linked knowledge	National curriculum objectives		Future linked knowledge	
Experiment with how to make own model stronger (Y1)	<ul style="list-style-type: none"> • 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. • Explore and evaluate a range of existing products. • Evaluate their ideas and products against set criteria. • 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 and materials. 		Know how to strengthen a product by stiffening a given part or reinforce a part of the structure. Use a simple IT program within the design (Y3)	
Notes	Cross-curricular links		Possible hooks/enrichment activities	
	English – The Three Billy Goats Gruff <i>To be populated by teachers, as they begin to use the curriculum – subject leader to then update half-termly.</i>			
Lesson Sequence				
To explore mechanisms. To think of an idea and plan what to do next.		To join materials and components in different ways. To use joining, folding or rolling to make it stronger and more stable. To incorporate some type of movement into models.		To explain what works well and not so well in the model they have made.
Lesson 1: Explore the term mechanisms. Look and discuss different toys, structures and bridges and how they move.	Lesson 2: Children to create their own ideas for a model/structure and write a plan, e.g. a bridge.	Lesson 3: Discuss the materials that will be used when creating the models/ structures. Explore joining, folding and rolling and how to make sure the structure is stable and can move.	Lesson 4 and lesson 5: Create a model/structure. Ensure the product is stable and has some type of movement, e.g. Can part of their bridge move? Add an image of the final product to art and DT books.	Lesson 6: Reflect on the model/structure; create an evaluation to go in their art and DT books alongside the image.
Key Vocabulary				
Mechanism Push, Pull, Join, Handle Wheels Lever Structure	Plan Write Instructions	Materials Join Fold Roll Stable Movement	Join Fold Roll Stable Movement	Evaluate Strengths Improvements
Key skill throughout unit				
<ul style="list-style-type: none"> • To design and make a model selecting appropriate tools with some type of movement. • To generate ideas through discussion and creating a plan. • To evaluate own product. 				

Year group: 2	Subject Area: Design Technology	Unit 2 – Textiles	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
Use own ideas to design something and describe how their own idea works. Use own ideas to make something. Describe how something works. Explain what went well with their work (Y1).	<ul style="list-style-type: none"> Design purposeful, functional, appealing products for themselves and other users based on design criteria. Design, generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups. 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 their ideas and products against design criteria 	Design a product and make sure that it looks attractive. 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).	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
Special occasions – Chinese New Year, Valentine’s day, Easter	<i>To be populated by teachers, as they begin to use the curriculum – subject leader to then update half-termly.</i>		
Lesson Sequence			
To think of an idea and plan what to do next. To explain why they have chosen specific textiles. To choose tools and materials and explain why they have chosen them.		To select from and use a range of tools and equipment to perform practical tasks. To select from and use a wide range of materials.	To suggest improvements to their own work and that of others
Lesson 1: Explore different types of decorations made from different materials. Children to plan a design for their decoration, e.g. special occasion, shape, colour, materials.	Lesson 2: Children to practise cutting and sewing skills using samples and templates of the materials and designs they have chosen to use. Ensure safety rules are established.	Lesson 3 and Lesson 4: Use the plans and knowledge of cutting and sewing to begin to create their decoration. Follow the instructions and remind of safety rules. Add an image of the final product to art and DT books.	Lesson 5: Reflect on the decoration and discuss what worked well and what could be changed to improve it.
Key Vocabulary			
Decoration Plan Colour Shape Material Tools	Material Sewing needle Thread Design Template	Sew Cut Thread Instructions	Evaluate Improvements
Key skill throughout unit			
<ul style="list-style-type: none"> To select a range of appropriate tools, equipment and materials and explain why they have been chosen. To generate ideas through talking and drawing. 			

Year group: 2	Subject Area: Design Technology	Unit 3 – Food Technology	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
Cut food safely. Describe the texture of food. Know how to wash own hands and make sure surfaces are clean (Y1)	<ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from. 	Describe how food ingredients come together. Weigh out ingredients and follow a given recipe to create a dish. Talk about which food is healthy and which food is not. Know when food is ready for harvesting (Y3)	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
Ensure all equipment is prepared and ready to access.	English: Write instructions to a recipe PSHE: Healthy Me Jigsaw unit Science: Animals including humans	Food tasting	
Lesson Sequence			
To explain what is means to be hygienic.	To understand a healthy and varied diet. To discuss where food comes from.	To know how to wash hands and make sure surfaces are clean. To be hygienic in the kitchen. To describe the ingredients used when making a dish or cake To weigh ingredients to use in a recipe. To cut food safely.	
Lesson 1: Look at and discuss the words safety and hygiene and how to be hygienic in the kitchen.	Lesson 2: Discuss and understand what is meant by a healthy and varied diet. Look at the food groups and discuss where some of the food may come from, e.g. farms, animals, fruit growing on tree, chips being made from potatoes, bread.	Lesson 3 and Lesson 4: Recap hand washing and making sure surfaces are clean before following the instructions for the recipe. Weigh and describe the wet and dry ingredients. Add an image of the food to art and DT books.	
Key Vocabulary			
Safety Hygiene Wash Soap Water	Healthy , Varied diet, Eat well plate, Food groups Fruit and vegetables, Carbohydrates, Protein Dairy Fats/oils Farmers Fields Animals	Recipe, Instructions, Ingredients Hygiene Weigh Scales Cutlery Whisk Knife Chopping board Texture Appearance	
Key skill throughout unit			
<ul style="list-style-type: none"> • To have knowledge of a healthy and balanced diet. • To have knowledge of hygiene and safety. • To be hygienic in the kitchen. • To know how to weigh ingredients. 			

Year group: 3	Subject Area: Design Technology	Unit 1 – Mechanisms Pneumatic Systems	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
Choose tools and materials and explain why they have chosen them. Measure materials to use in a model or structure. (Y2)	<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 and communicate their ideas through discussion, annotated sketches and computer-aided design. • Select from and use a range of tools and equipment to perform practical tasks, including cutting, accurately. • Apply their understanding of computing to program their products. 	Know which tools to use for particular tasks and show knowledge of using the tool. Use IT, where appropriate, to add to the quality of the product (Y4)	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
Class set of syringes, tube and balloons	Science – animals English – The Fox and the Star	Explore how to move an object using air. Show range of objects – flying rockets, paper airplanes.	
Lesson Sequence			
To design a product and make sure that it looks attractive. To select the most appropriate tools and techniques for a given task. To choose a material for both its suitability and its appearance. To choose textiles both for their appearance and also qualities.	To use a simple IT program within the design.	To choose a material for both its suitability and its appearance.	To join textiles of different types in different ways. To work accurately to measure, make cuts and make holes.
Lesson 1 and lesson 2: Explore different examples of a product. Look at the features. Create a plan for the product. Plan the materials and textiles that will be needed for their chosen design. Discuss and write the tools that will be needed, e.g. scissors to cut.	Lesson 3: Create a poster on Word linking to the design the children have planned.	Lesson 4: Children to go to the local beach to collect materials for their design.	Lesson 5 and lesson 6: Create the chosen product, following the plans and joining the materials for the finished product. Add an image of the final product to Sketchbook.
Key Vocabulary			
Plan, Design Materials, Textiles Equipment Tools Techniques	Software Microsoft Word Save Print	Material Natural objects	Model , Materials Textiles Joining Plan, Create Make
Key skills throughout unit			
<ul style="list-style-type: none"> • To design and make a product selecting appropriate tools, techniques and materials. • To generate ideas through discussion and creating a plan with annotated sketches. • To use a simple IT program within the design. 			

Year group: 3		Subject Area: Design Technology		Unit 2: Textiles		Subject Leader: H Cassidy	
Prior linked knowledge		National curriculum objectives				Future linked knowledge	
Explain why they have chosen specific textiles. Choose tools and materials and explain why they have been chosen. Evaluate and suggest improvements to their own work (Y2).		<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, aimed at particular individuals or groups. • Generate, develop, model and communicate their ideas. • 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, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Investigate and analyse a range of existing products. • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. 				Know which tools to use for a particular task and show knowledge of handling the tool. Know which material is likely to give the best outcome. Evaluate and suggest improvements for design (Y4).	
Notes		Cross-curricular links				Possible hooks/enrichment activities	
Teacher to create a class on Tinkercad using HC's school account.		English – The King who banned the dark and How the stars came to be Science – Light ICT – using a variety of software				Varied styles of toy puppets to explore.	
Lesson Sequence							
To prove that a design meets a set criteria. To use a number of components. To know how to strengthen a product by stiffening a given part or reinforce a part of the structure				To use a simple IT program within the design.		To choose a material for both its suitability and its appearance. To join textiles of different types in different ways. To work accurately to measure, make cuts and make holes.	
Lesson 1 and lesson 2: Explore different examples of a product, e.g. puppets – hand, finger, shadow. Look at the features of them. Create a plan and design for the chosen product, e.g. finger puppet. Plan the materials and textiles that will be needed for their chosen design. Discuss and write the tools that will be needed, e.g. scissors to cut, needle and thread.		Lesson 3 and Lesson 4: Using Tinkercad, create a computer aided design of a 3D model of a stage for the puppets.		Lesson 5 and lesson 6: Create the chosen product, e.g. finger puppet, following the plans and joining the materials for the finished product. Add an image of the final product to art and DT books.		Lesson 1 and lesson 2: Explore different examples of a product, e.g. puppets – hand, finger, shadow. Look at the features of them. Create a plan and design for the chosen product, e.g. finger puppet. Plan the materials and textiles that will be needed for their chosen design. Discuss and write the tools that will be needed, e.g. scissors to cut, needle and thread.	
Key Vocabulary							
Plan, Design Materials, Textiles Equipment, Tools Techniques		Software, Microsoft Word Save Print			Model , Materials Textiles, Joining Plan Create, Make		

Key skills throughout unit
<ul style="list-style-type: none"> • To design and make a product selecting appropriate tools, techniques and materials. • To generate ideas through discussion and creating a plan with annotated sketches. • To use a simple IT program within the design.

Year group: 3	Subject Area: Design Technology	Unit 3 – Food Technology	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives		Future linked knowledge
Weigh ingredients to use in a recipe. Describe the ingredients used when making a dish or cake. Explain what it means to be hygienic (Y2).	<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 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 tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing, accurately. 		Know how to be both hygienic and safe when using food. Bring a creative element to the food product being designed (Y4).
Notes	Cross-curricular links		Possible hooks/enrichment activities
Ensure all equipment is prepared.	Maths: Geometry – measurement Science: Animals including humans – healthy eating		Healthy eating workshop with the school nurse.
Lesson Sequence			
To understand the principles of a health and varied diet. To talk about which food is healthy and which food is not.	To know when food is ready for harvesting	To plan a predominantly savoury dish.	To prepare and cook a savoury dish. To describe how food ingredients come together To weigh out ingredients and follow a given recipe to create a dish
Lesson 1 and 2: Explore the principles of a healthy and varied diet. Look at the food groups and nutritional information food has on the body.	Lesson 3: Discuss where our food comes from and how certain foods are made, e.g. crops, wheat used to make bread. Understand how and when certain foods are ready for harvesting, e.g. months/seasons	Lesson 4: Discuss the terms savoury and sweet dishes, look at two different dishes and compare the cooking techniques, e.g. jam/fruit tarts and soup. Plan a recipe, looking at the ingredients and equipment needed.	Lesson 5 and 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 Varied diet	Farms Farmers	Savoury Sweet	Recipe Hygiene

Balanced Nutrition Eat well plate Food groups Fruit and vegetables Carbohydrates Protein Dairy Fats/oils	Fishing Fields Crops Harvesting Combine harvester Seasons	Cooking techniques Recipe Plan Ingredients Equipment	Safety Handle Prepare Make Measure Ingredients
Key skill 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 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	Lesson 2: Create a plan for a chosen musical	Lesson 3 and 4: Create a musical instrument, selecting appropriate tools	Lesson 5: Write an evaluation for the product. Think about what worked
			Lesson 6: In groups, create a short performance to present

choose a musical instrument they would like to make and explore different materials that make a similar sound.	instrument. Write down the materials and tools needed to make.	and materials. Add image of product to art and DT books.	well in relation to purpose and appearance. Use this lesson to make any amendments.	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. 				

Year group: 5	Subject Area: Design Technology	Unit 1 – Mechanical Structures	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
Links scientific knowledge by using lights, switches or buzzers. Use electrical systems to enhance the quality of the product. Use IT to add to the quality of the product (Y4).	<ul style="list-style-type: none"> Understand and use mechanical systems in their products, for example, gears, pulleys, cams, levers and linkages. Apply their understanding of computing to program, monitor and control their products. 	Use electrical systems correctly and accurately to enhance a product. Use different kinds of circuits. Know which IT product would further enhance a specific product. Use knowledge to improve a made product (Y6).	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
Linked to Holes text.	Science: Forces	Explore different structures including toys and how they move.	
Lesson Sequence			
To produce a detailed, step by step plan. To design a product that requires pulleys or gears. To link scientific knowledge to design by using pulleys or gears.		To make a product that relies on pulleys or gears.	To use more complex IT program to help enhance the quality of the product produced.
Lesson 1: Research different mechanical systems including gears, pullers, cams, levers and linkages. Design and create a poster for their chosen model. E.g. a system used to dig holes.	Lesson 2 and Lesson 3: Create a step by step plan for their chosen products, annotating where the pulley or gears will be.	Lesson 4 and Lesson 5: Use the step by step plan to create their product ensuring it moves by a pulley or gear. Add an image of the final product to art and DT books.	Lesson 6: Use an online program such as Scratch to code the movement of the product. Add an image of the program to art and DT books.
Key Vocabulary			
Mechanical systems Pulleys Gears Design Forces	Plan Annotate Design	Final product Movement Pulley Gears	IT program Scratch Coding Movement Motion
Key skill throughout unit			
<ul style="list-style-type: none"> To be able to design and make a product that requires pulleys or gears. To use an IT programme to enhance the product. 			

Year group: 5	Subject Area: Design Technology	Unit 2 – Mechanisms Pop Up Books	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives		Future linked knowledge
Use ideas from other people when designing. Communicate ideas in a range of ways. Know which tools to use for a particular task and show knowledge of handling the tool. Evaluate and suggest improvements (Y4).	<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, aimed at particular individuals or groups. • Generate, develop, model and communicate their ideas. • 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. • 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. 		Use market research to inform plans and ideas. Justify planning in a convincing way. Know which tool to use for a specific task and use it correctly and safely. Know how to test and evaluate designed products (Y6).
Notes	Cross-curricular links		Possible hooks/enrichment activities
	Computing: 3D designs <i>To be populated by teachers, as they begin to use the curriculum – subject leader to then update half-termly.</i>		
Lesson Sequence			
To explain how a product will appeal to a specific audience. To come up with a range of ideas after collecting information from different sources.	To use a range of tools and equipment competently. To make a prototype before making a final version.	To use a range of tools and equipment competently. To use a range of tools, equipment, materials and techniques.	To suggest alternative plans; outlining the positive features and draw backs evaluate appearance and function against original criteria.
Lesson 1: Explore different examples of pop up books (lift the flap, sider pop-ups, rotating pop-ups, etc.) and identify a chosen audience, e.g. book for a certain year group. Children to collate their own ideas from online research, questionnaires, siblings in school, etc.	Lesson 2 and Lesson 3: Children to use their multiple ideas to choose a final design and create a plan. Add in the type/s of pop-up techniques. Children to test out the techniques to create a prototype. Add an image of prototype to art and DT books.	Lesson 4 and Lesson 5: Create the structure of the book, including the pop-up features to make their mechanisms using levers and linkages. Use layering to hide the mechanisms and add writing, colour and illustrations. Add image of product to art and DT books.	Lesson 6: Children to evaluate their product, share and discuss with the class. Think about the pros and cons of the process and well as the final product.
Key Vocabulary			
Pop-up Mechanisms Levers Linkages	Prototype Tools Equipment Materials	Design Tools Equipment Materials	Evaluate Reflect Discussion Success criteria

Input Output Audience Sources Ideas	Techniques Levers Linkages Input Output	Techniques Layering Levers Linkages Input Output	Process
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Key skill throughout unit

- To be able to ideas and develop annotated sketches, cross-sectional and exploded diagrams, prototypes and computer-aided designs.
- To select appropriate tools and materials for the task.
- To be able to reflect and evaluate their own work.

Year group: 5	Subject Area: Design Technology	Unit 3 – Food Technology	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives		Future linked knowledge
Know how to be both hygienic and safe when using food. Bring a creative element to the food product being designed (Y4)	<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 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 tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing, accurately. 		Explain how food ingredients should be stored and give reasons. Work within a budget to create a meal understand the difference between a savoury and sweet dish (Y6)
Notes	Cross-curricular links		Possible hooks/enrichment activities
Ensure all equipment is prepared.	Maths: measuring and weighing the ingredients, use of temperature scales, use of chronological order, seasons, shapes English: reading and understanding the recipe, written evaluation, group discussion Science: irreversible changes, food hygiene and kitchen safety		Healthy eating workshop with the school nurse.
Lesson Sequence			
To be both hygienic and safe in the kitchen	To know which season various foods are available for harvesting	To know how to prepare a meal by collecting the ingredients in the first place	To prepare and cook a savoury dish.

<p>Lesson 1: Discuss and identify the potential dangers in the kitchen and the consequences of the particular danger. Understand how to make the kitchen a safer place. Discuss being hygienic and safe in the kitchen, e.g. cross contamination, cleaning, storing food.</p>	<p>Lesson 2: Research various foods that are grown, reared, caught and processed in different seasons. Discuss and understand when harvesting happens.</p>	<p>Lesson 3 and Lesson 4: Identify the process of preparing a meal, where the food comes from, collecting the ingredients, preparing and weighing the ingredients ready to cook. Plan a meal/predominately savoury dish and identify the ingredients and equipment.</p>	<p>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.</p>
Key Vocabulary			
<p>Hygiene Safety Dangers Kitchen</p>	<p>Farms Farmers Fishing Fields Crops Harvesting Combine harvester Seasons</p>	<p>Process Prepare Meal Savoury Ingredients Equipment Plan Recipe</p>	<p>Recipe Hygiene Safety Handle Prepare Make Measure Ingredients</p>
Key skill throughout unit			
<ul style="list-style-type: none"> • To be able to prepare and cook a recipe using the appropriate tools and techniques. • To be hygienic and safe in the kitchen. • To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 			

Year group: 6	Subject Area: Design Technology	Unit 1 – Electrical Systems	Subject Leader: H Cassidy	
Prior linked knowledge	National curriculum objectives		Future linked knowledge	
Links scientific knowledge to design by using pulleys or gears. Uses more complex IT program to help enhance the quality of the product produced (Y5)	<ul style="list-style-type: none"> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. • 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. 		Understand how more advanced electrical and electronic systems can be powered and used in their products (for example, circuits with heat, light, sound and movement as inputs and outputs) (KS3)	
Notes	Cross-curricular links		Possible hooks/enrichment activities	
Children will be taught circuits in Science lessons.	Science: Light and electricity		Children to play the board game Operation.	
Lesson Sequence				
To understand electrical systems and circuits.	To use different kinds of circuit in their product. Use electrical systems correctly and accurately to enhance a given product. Use knowledge to improve a made product by strengthening, stiffening or reinforcing.		To hide joints so as to improve the look of their product.	To know which IT product would further enhance a specific product.
Lesson 1: Research different electrical systems including light circuits and alarms and explore the different kinds of circuits incorporating switches, bulbs, buzzers and motors.	Lesson 2: Explore using different kinds of circuits and give reasons and examples for their uses. Create a design for a steady hand game and draw out the circuit they will need for their product.	Lesson 3 and Lesson 4: Create a wired steady hand game using an electrical system that works correctly. Evaluate the product and discuss the ways in which they could improve it. Take a photograph of the model and add to art and DT books.	Lesson 5: Use their evaluation to improve their design for the final product, e.g. creating a box or stand to hide wires. Add an image of the final product to art and DT books alongside the image of the product before the amendments.	Lesson 6: Use a video and add a QR code to the box of their final product.
Key Vocabulary				
Electrical system Motors Circuits Switches Bulb Buzzer	Electrical motors Circuits Switches Bulb Buzzer	Electrical system Wire Evaluate Final product	Evaluation Improvements Joints Sketchbook	QR code Generator
Key skill throughout unit				
<ul style="list-style-type: none"> • To understand electrical systems and circuits and be able to design and make a product showing a type of circuit. • To be able to suggest and make improvements to a product. • To apply skills of computing to further enhance a product. 				

Year group: 6	Subject Area: Design Technology	Unit 2 – Market Research and Textiles	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
Come up with a range of ideas after collecting information from different sources. Use a range of tools, equipment, materials and techniques. (Y5)	<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, aimed at particular individuals or groups. • Generate, develop, model and communicate their ideas. • Select from and use a wider range of tools and equipment for practical tasks. • Select from and use a wide range of materials and components. 	Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture. Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties (KS3).	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
	History: World War 2	<i>To be populated by teachers, as they begin to use the curriculum – subject leader to then update half-termly.</i>	
Lesson Sequence			
To use market research to inform plans and ideas.	To justify planning in a convincing way. To show that culture and society is considered in plans and designs. To know which tool to use for a specific practical task and what each is used for.	To follow and refine original plans. To know how to use any tool correctly and safely. To explain why a specific tool is best for a specific action.	
Lesson 1: Discuss the task of designing and making the model (e.g. model of an air-raid shelter). Create their own market research including surveys and questionnaires for the making of their models, e.g. materials, structure, shape, etc.	Lesson 2: Create a detailed plan for the model. Ensure plans have explanations of the tools and materials intended to use. Children to be able to explain why they have chosen specific materials.	Lesson 3 and Lesson 4: Use the plans to create their own model. Ensure the children think about what they are using specific tools. Encourage children to check if the models are secure and stable. Make suggestions and changes of construction if necessary.	
Key Vocabulary			
Market research, Surveys, Questionnaires Design, Make	Plan, Design, Tools, Materials Explain, Justify	Model , Plan, Tools Equipment, Materials, Construction	
Key skill throughout unit			
<ul style="list-style-type: none"> • To generate, develop, model and communicate their ideas. • To select appropriate tools and materials for the task and ensure they are used correctly and safely. 			

Year group: 6	Subject Area: Design Technology	Unit 3 – Food Technology	Subject Leader: H Cassidy
Prior linked knowledge	National curriculum objectives	Future linked knowledge	
Be both hygienic and safe in the kitchen. Know how to prepare a meal by collecting the ingredients in the first place. Know which season various foods are available for harvesting (Y5).	<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 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 tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing, accurately. 	Understand and apply the principles of nutrition and health. Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet. Become competent in a range of cooking techniques. Understand the source, seasonality and characteristics of a broad range of ingredients (KS3).	
Notes	Cross-curricular links	Possible hooks/enrichment activities	
	<i>To be populated by teachers, as they begin to use the curriculum – subject leader to then update half-termly.</i>		
Lesson Sequence			
To understand the difference between a savoury and sweet dish	To explain how food ingredients should be stored and give reasons	To work within a budget to create a meal	To prepare and cook a savoury dish.
Lesson 1: Discuss the terms savoury and sweet. Understand what they both mean and look at two different dishes (one savoury and one sweet) and compare them.	Lesson 2 and lesson 3: Discuss being hygienic and safe in the kitchen and explore how food should be stored. Create poster explaining the reasons for storing food correctly.	Lesson 4: Create a meal using a given budget. Use information to plan items and calculate the amount to ensure they stick within their budget. Ensure the meals are healthy and varied.	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			
Savoury Sweet Compare	Hygienic, Safety Kitchen, Food, Storage	Budget, Plan, Meal Calculate, Healthy, Varied Balanced, Diet	Recipe, Hygiene, Safety Handle, Prepare, Make Measure, Ingredients
Key skill throughout unit			
<ul style="list-style-type: none"> To explain how food should be safely stored. To be able to prepare and cook a recipe on a budget using the appropriate tools and techniques and understand savoury and sweet dishes. To be hygienic and safe in the kitchen. 			