

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>
<p>Key Vocabulary</p>			
<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>
<p>Key skill throughout unit</p>			
<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. 			