



## MEDIUM TERM PLANNING

Subject	Topic/Key Question	Year Group	Term	Time Allocation
Design and Technology	Storybooks	3	Autumn 1	6 hours
End of lower key stage 2 objectives	<p>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.</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</p> <p>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.</p> <p>Investigate and analyse a range of existing products.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p>			
Mechanical systems				
End of unit objectives	<p>I can explore moving parts in storybooks, suggesting how they work and what purpose they serve.</p> <ul style="list-style-type: none"> <li>• I can explain what the words 'linkage', 'pivot', 'rotate' and 'lever' mean.</li> <li>• I can use a paper concertina to make an object pop out of a book.</li> </ul>			

	<ul style="list-style-type: none"> <li>• I can arrange and stick paper between pages to create a pop-out.</li> <li>• I can use levers to create moving parts.</li> <li>• I can create moving wheel mechanisms to create different effects.</li> <li>• I can experiment with different fonts and graphic design features.</li> <li>• I can design pages of a storybook to include moving mechanisms and appropriate graphic features.</li> <li>• I can follow my designs to create a storybook with moving mechanisms.</li> <li>• I can evaluate how well my moving mechanisms work.</li> <li>• I can evaluate the overall effectiveness of my storybook.</li> </ul>	
Vocabulary	Design	Design, criteria, product, attractive, step by step, plan, order, equipment, tools, describe, labelled, sketch, realistic
	Make	Follow, plan, equipment, materials, select, appropriate, tools, techniques, product, accurate, measure, cut, holes, shape,
	Evaluate	Explain, how, improve, know, why, has been successful, has not been successful, changes, make designs better if ...
	Mechanisms	Mechanisms, make, product, components, choose, materials, suitability,

Lesson Sequence	Time Allocation	Key Question/WALT	Teaching Activities	Resources
-----------------	-----------------	-------------------	---------------------	-----------

<p>Technical knowledge</p> <p>Lesson 1</p>	<p>1 hours</p>	<p>To investigate and evaluate products with lever and linkage systems.</p>	<p>NB: You will need to provide each table with a selection of books that have moving parts (flaps, pop-ups, rotating pictures).</p> <ul style="list-style-type: none"> <li>• Ask children what their favourite storybook is. Invite them to discuss the book with a partner.</li> <li>• tell children that over the course of the unit they will be designing and making their own storybook with moving parts. Have you read a book with moving parts? What was it called?</li> <li>• Provide tables with a selection of books with moving parts such as pop-up pages, flaps to open, pictures to rotate, etc. Invite children to look at the books and the moving parts they have.</li> <li>• Ask children to discuss how they think each of the moving mechanisms were made, what materials were used and which part moves and doesn't move.</li> <li>• Invite children to also discuss the layout, wording, fonts and style of the book to help them with ideas for their own story book.</li> <li>• Display some of the vocabulary needed when talking about moving mechanisms: lever, pivot, linkage, rotate. Check children understand what each of these words means.</li> <li>• Explain to your class the definition of the four words introduced and show them examples of these mechanisms.</li> <li>• Can they explain how they work to a partner?</li> </ul> <p>Activity</p> <p>Ask children to choose a book on their table to look at more closely. On worksheet 1B, children to sketch each moving part, label each part, then describe how they think it was made. Ensure children use the correct technical vocabulary.</p> <p>Questions for assessment</p>	<p>Plan Bee lesson 1</p> <p>Slides</p> <p>Resources</p> <p>Selection of books with moving parts Worksheet 1A/1B/1C/1D</p>
--	----------------	---	--	---

			<p>Can children recognise products that contain lever and linkage systems?</p> <ul style="list-style-type: none"> <li>• Can children explain why a particular mechanism has been used for a particular purpose?</li> <li>• Can children use technical vocabulary to describe lever and linkage systems?</li> </ul>	
<p>Technical knowledge Lesson 2</p>	<p>1 hour</p>	<p>To experiment with a range of techniques to create moving mechanisms.</p>	<p>How many different types of moving mechanisms can you remember from last lesson? Give children one minute to list as many as they can with a partner then share with the class.</p> <ul style="list-style-type: none"> <li>• Tell children that today they will be having a go at making some of these mechanisms to give them ideas for when they make their own storybooks.</li> <li>• Go through the slides looking at some of the different techniques e.g. making a paper concertina, creating a pop-out object, making window flaps that open, rotating objects using a split-pin and using a lever to create a moving part.</li> <li>• Ask children to discuss how they could join the pieces together and to the pages in their storybook. Is it best to use glue? Masking tape? Sticky tape? Paper clips?</li> <li>• Ask children to discuss which mechanism was the easiest and hardest to make. Which one would you like to use in your own storybook? NB: Make sure children are aware of the safety issues involved when using sharp objects, especially craft knives.</li> </ul> <p>Activity</p> <p>Provide children with all the materials they will need (paper, card, glue, split-pins, paper clips etc) and ask them to practise all of the techniques. Encourage children to be as neat and accurate as possible.</p> <p>Questions for assessment</p>	<p>Plan Bee Lesson 2</p> <p>Slides</p> <p>Resources</p> <p>Worksheet 2A</p> <p>Paper and card</p> <p>Scissors and craft knives</p> <p>Joining materials e.g. paper clips, split-pins, masking tape, sticky tape, glue etc.</p>

			<p>Can children cut and shape materials with some precision to make their mechanisms work?</p> <ul style="list-style-type: none"> <li>• Can children join and combine materials and components in a variety of ways?</li> <li>• Can children mark out and measure accurately?</li> </ul>	
<p><b>Technical knowledge</b> Lesson 3</p>	1 hours	<p>To explore and experiment with a range of different fonts and graphic techniques.</p>	<p>.To make a good moving storybook you don't just need to have moving mechanisms; you need to make the rest of the book look good too.</p> <ul style="list-style-type: none"> <li>• Tell children that today they will be looking at different fonts and graphic techniques so that their books look good as well as move well.</li> <li>• On the slides, display fonts and book titles that have got muddled up. Which font do you think goes with each title? Make sure children understand that they need to choose their font to match the purpose of their book.</li> <li>• It is important to match the font to the subject of the book. Show children examples of fonts that do this.</li> <li>• Explain to your class you can colour in fonts once you have chosen them. How will you colour in your font? Look at the different ways of shading e.g. cross-hatching, dotting, lines, etc. Which do you think will be most effective?</li> <li>• Tell children that today they will be creating a collage of different ideas to help them decide which fonts they would like to use in their final designs.</li> </ul> <p>Activity</p> <p>Provide children with the Font Sheets, a blank sheet of A3 paper and some small sheets around A6 size. Children to practise some of the different fonts and shading techniques on the small sheets. When finished, stick all the small sheets onto the big sheet to create a collage.</p>	<p>Plan Bee lesson 3 Slides Resources</p> <p>Font sheets A3/A6 paper Felt-tips/coloured pencils Scissors and glue Access to computers (FSD? activity only)</p>

			<p>Write some notes underneath each example stating whether they like the font, how easy it was, whether they like the shading technique, etc</p> <p>Questions for assessment</p> <p>Are children aware that different fonts and graphic techniques need to be suited to their purpose?</p> <ul style="list-style-type: none"> <li>• Can children experiment to create a range of different fonts and graphic techniques?</li> <li>• Can children explain which designs they like best/least and why?</li> </ul>	
<p><b>Design</b> Lesson 4</p>	1 hours	To be able to plan and design a book.	<p>Ask children to discuss what they have learnt so far about moving storybooks (moving mechanisms, different fonts and graphics, etc).</p> <ul style="list-style-type: none"> <li>• Invite your class to discuss how these new skills will help them to make their own storybook that has moving mechanisms.</li> <li>• Remind children that they need to think carefully about a few things before they start planning their own storybook.</li> <li>• Go through these questions on the slides: What story will you use? How will you bind the pages of your book? How will you join the pages of your book together? Which fonts will you use? Which mechanisms would fit well with your story? Who will it be for?</li> <li>• Give children some time to discuss the answers to these questions in pairs or small groups.</li> </ul> <p>Activity</p> <p>Give children four copies of worksheet 4A to design their 4- page storybook, stating what text they will use, which moving parts and which fonts.</p> <p>Questions for assessments</p> <p>Can children create a design for a particular purpose?</p>	<p>Plan Bee lesson 4</p> <p>Slides</p> <p>Resources</p> <p>Worksheet 4A</p>

			<ul style="list-style-type: none"> <li>• Can children choose suitable mechanisms to create moving parts in their storybook?</li> <li>• Can children choose appropriate fonts and graphic techniques to use in their design?</li> </ul>	
<p><b>Make</b> Lesson 5</p>	1 hour	To be able to make a storybook with moving mechanisms using a design.	<p>Ask children to get out their designs from last lesson. Give them some time to read through their designs to make sure that they are familiar with what they will need to do.</p> <ul style="list-style-type: none"> <li>• With a partner, explain each step of the creating process to check they know what order they need to do each step in. Partners to check whether or not have included everything they need to and that they haven't missed out any vital steps.</li> <li>• Make sure children are aware of any safety issues, e.g. working with sharp objects, before they start to make their storybooks.</li> </ul> <p>Activity</p> <p>Children to create their storybooks based on their design from last lesson.</p> <p>Questions for assessment</p> <p>Can children follow a design to create a storybook?</p> <ul style="list-style-type: none"> <li>• Can children create moving mechanisms that works well?</li> <li>• Can children create pages that are neat, accurate and creative?</li> </ul>	<p>Plan Bee lesson 5 Slides Resources Designs from Lesson 4 Paper, card, scissors, glue, paper clips, split-pins, craft knives, rulers, staplers, etc.</p>
<p><b>Evaluate</b> Lesson 6</p>	1 hour	To be able to evaluate a final product.	<p>Invite children to come to the front to share their finished storybooks with the class.</p> <ul style="list-style-type: none"> <li>• Display the questions on the slides for the class to discuss when they look at each others storybooks. What is good about it? What works really well? What do you think of the mechanisms? Do they fit the purpose? Is the storybook suitable for the intended audience? What could be improved upon?</li> </ul>	<p>Plan Bee Lesson 6 Slides Resources Finished storybooks</p>

			<ul style="list-style-type: none"> <li>• Ask children to get into pairs to evaluate their storybooks together. Make sure children understand the need for positive feedback and constructive criticism</li> </ul> <p>Activity</p> <p>Children to complete the evaluation on worksheet 6B.</p> <p>Questions for assessment</p> <p>Can children evaluate other people's finished products fairly and constructively?</p> <ul style="list-style-type: none"> <li>• Can children evaluate their own finished product fairly and constructively?</li> <li>• Can children explain what they would do differently if they were to make their product again?</li> </ul>	<p>Worksheet 6A/6B/6C/6D</p>
--	--	--	---	----------------------------------