

Inskip St Peter's C.E. Primary School Knowledge Organiser

Subject: Design & Technology		Years: 5&6		Area: Mechanical Systems			
What should I already know?		What skills will I learn?		Vocabulary			
<p>KS1 Moving Pictures:</p> <ul style="list-style-type: none"> • Explore and evaluate an existing product • Use a slider mechanism to make a picture move • Measure and cut accurately • Make a lever and use it in a product • Design a product thinking about who it is for • Use different mechanisms to make a final product 		<p><u>To design and make a Pop Up Book using a range of mechanisms for a younger child in school to read</u></p> <p>Evaluation of Existing Products</p> <ul style="list-style-type: none"> ▪ Investigate similar products to the one to be made to give starting points for a design. ▪ Research needs of user. ▪ Draw/sketch products to help analyse and understand how products are made. ▪ Identify the strengths and weaknesses of their design ideas in relation to purpose/user. ▪ Decide which design idea to develop. <p>Focused Tasks: Mechanical and Electrical Systems and ICT</p> <ul style="list-style-type: none"> ▪ Develop vocabulary related to the project. ▪ Use mechanical systems such levers and linkages. ▪ Use lolly sticks/card to make levers and linkages. 		<ul style="list-style-type: none"> • Design • Lever • Linkage • Prototype • Pivot • Mechanism • Tabs • Product 	<p>Come up with and draw pictures/diagrams of a product for a purpose.</p> <p>A rigid bar resting on a pivot</p> <p>A connection in a mechanism</p> <p>A first version of a device or product from which other forms are developed</p> <p>A central point or pin on which a mechanism turns</p> <p>A product with moving parts</p> <p>Card used to strengthen a moving part or help it move</p> <p>A manufactured item for use by someone</p>		
				Resources			
						<p>Fairy Tale books</p> <p>Card</p> <p>Glue/ Low Heat Melt Glue Gun</p> <p>Lollysticks</p> <p>Split pins</p> <p>Craft knives</p> <p>Craft boards</p> <p>Pop up Books</p> <p>YouTube videos of how to make a range of pop up mechanisms</p> <p>Lancashire Planning Unit (Iron Man)</p>	

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	<ul style="list-style-type: none">▪ Use linkages to make movement larger or more varied. <p>Design</p> <ul style="list-style-type: none">▪ Develop more than one design or adaptation of an initial design.▪ Plan a sequence of actions to make a product.▪ Record the plan by drawing using annotated sketches.▪ Use prototypes to develop and share ideas.▪ Think ahead about the order of their work and decide upon tools and materials.▪ Propose realistic suggestions as to how they can achieve their design ideas. <p>Make</p> <ul style="list-style-type: none">▪ Prepare pattern pieces as templates for their design.▪ Cut slots.▪ Cut internal shapes.▪ Select from a range of tools for cutting, shaping, joining and finishing.▪ Use tools with accuracy.	
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	<ul style="list-style-type: none">▪ Select from techniques for different parts of the process.▪ Select from materials according to their functional properties.▪ Plan the stages of the making process.▪ Use appropriate finishing techniques. <p>Evaluation (of their Finished Product)</p> <ul style="list-style-type: none">▪ Consider and explain how the finished product could be improved.▪ Discuss how well the finished product meets the design criteria of the user.▪ Investigate key events and individuals in design and technology.	
By the end of KS2		
		<ul style="list-style-type: none">• Develop vocabulary related to the project.• Use mechanical systems such as levers and linkages.• Use lolly sticks or card to make levers and linkages.• Use linkages to make movement larger or more varied.• Use tools with accuracy.• Cut slots.• Cut internal shapes.• Appropriate finishing techniques.• Stiffen and strengthen materials.

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