



St John Vianney Catholic Primary School



What I am Learning in



D&T this Term...

Year 4: Mechanical systems-Levers and linkages

Topic Overview – Lesson Objectives

Lesson 1	Investigate, analyse and evaluate books and other products which have a range of lever and linkage mechanisms. Use questions to develop understanding such as, 'Who might it be for?' 'How effective do you think it is and why?' Look at a range of lever and linkage mechanisms. Consider such things as, 'Which card strip is the lever?' 'Which card strip is acting as the linkage?'
Lesson 2	Replicate the skills of measuring, marking out, cutting, joining and finishing skills and techniques.
Lesson 3	Design a product in a context that is authentic and meaningful, focusing on the needs of the user. Use annotated sketches and prototypes to develop, model and communicate ideas. Local are link – Blackpool Pleasure Beach
Lesson 4	Make a high-quality product, selecting and using appropriate tools with some accuracy to cut, shape and join paper and card.
Lesson 5	Finish making the product, selecting from and using finishing techniques suitable for the product you are creating.
Lesson 6	Evaluate the final product against the intended purpose and with the intended user, drawing on the design criteria previously agreed.

Assessment – National Curriculum

NC Statement	Maths/Literacy opportunity	Child led enquiry
<p>Design</p> <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 through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. <p>Make</p> <ul style="list-style-type: none"> *Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. *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>Evaluate</p> <ul style="list-style-type: none"> *Investigate and analyse a range of existing products. *Evaluate their ideas and products against their own design criteria 	<p>Use the vocabulary of position, direction and movement. Use a ruler to measure to the nearest cm, half cm or mm.</p> <p>Spoken language-ask relevant questions to extend knowledge and understanding. Build their technical vocabulary.</p>	<p>How do the different mechanisms work?</p>

and consider the views of others to improve their work.

*Understand how key events and individuals in design and technology have helped shape the world.

Technical knowledge

*Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

*Understand and use mechanical systems in their products (levers and linkages)

Topic Vocabulary

mechanisms, lever, linkage, pivot, slot, bridge, guide, system, input, process, output, linear, rotary, oscillating, reciprocating, user, purpose, function, prototype, design criteria, innovative, appealing, design brief