



Crofton Junior School – DT Knowledge Organiser – The Firework Maker’s Daughter– Year 3 Summer Term



Unit of Work	DT – The Firework Maker’s Daughter – Linked lever firework toy
Text Driver the Unit of Work Links to	Escape from Pompeii The Firework Maker’s Daughter
Key Strand	Master Practical Skills – Mechanics Design, Make, Evaluate and Improve
Overview of the Unit of Work	Pupils will learn about linked levers in order to create a firework toy. They will draw upon their scientific knowledge to think about the transference of forces to create the toy. They will also design with the user in mind, motivated by the service the toy will offer. Pupils will make prototypes to ensure their ideas are refined. They will also make sure their final toy has a high quality of finish.
Prior Learning & Vocabulary	<p>Taken from the KS1 Curriculum: Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none">• design purposeful, functional, appealing products for themselves and other users based on design criteria• generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none">• 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 <p>Evaluate</p> <ul style="list-style-type: none">• explore and evaluate a range of existing products• evaluate their ideas and products against design criteria <p>Technical knowledge</p> <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.

	<p>Vocabulary: design, make, evaluate, technical, purposeful, appealing, criteria, generate, develop, model, communicate, ideas, templates, tools, practical, materials, components, construction</p>
<p>Sticky Knowledge</p>	<p>Pupils will learn:</p> <ul style="list-style-type: none"> • That a linked lever system is a number of levers that are joined together. They are connected by fixed or moving pivots, which are the fulcrum of each lever. • A linked lever system is designed to change the direction of force and movement. A fixed pivot turns around one point and cannot move away from this position. • To use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product. • To design with the user in mind, motivated by the service a product will offer. • To make products through stages of prototypes, making continual refinements and ensure that the final product has a high quality finish, using art skills where appropriate. <div data-bbox="898 628 1805 900" style="text-align: center;"> </div>
<p>New Vocabulary</p>	<p>pivot – the point around which a lever turns fulcrum – the point at which a lever balances or turns linear – in a straight line rotary – turning around a fixed point reciprocating – moving back and forth in a straight line oscillating – move back and forth in an arc</p>
<p>Post Learning</p>	<p>During the Summer Term of Year 5, pupils will look at mechanisms again whilst studying the Vikings.</p>