

Catapult Challenge Workshop Years 4, 5 and 6

Curriculum Links

Please note:	Our workshops may not cover all of the links below in great depth as we are restricted by time, however you have the opportunity to cover them in the follow up activities you will be receiving from us.	
Aims and Activities taken from the workshop booklet	This practical problem-solving workshop is technology based and has been used in the past by schools to fit in with a topic on the Romans but works equally well as a stand-alone exciting engineering challenge for your class. During the workshop, children will be guided through the main parts of catapult construction, each making a small catapult which they can keep. They will then work in pairs to use construction kits, provided by us, to tackle a challenge set by the workshop leader. There is a competitive element to the challenge with certificates awarded in specific categories. Every child is encouraged to review their own successes during the workshop and is awarded a personalised certificate of achievement.	
	National Curriculum	Non-Statutory Opportunities
Science	Working Scientifically (LKS2/UKS2): <ul style="list-style-type: none"> • Asking relevant questions and using different types of scientific enquiries to answer them; planning different types of scientific enquiries to answer questions • Setting up simple practical enquiries, comparative and fair tests; recognising and controlling variables where necessary • Make systematic and careful observations take accurate measurements using standard units; using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where appropriate • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; • Recording simple findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables; recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions; reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degrees of trust in results, in oral and written forms such as displays and other presentations • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions; using test results to set up further comparative and fair tests • Identifying differences, similarities or changes related to simple scientific ideas and processes 	Pupils will have the opportunity to: <ul style="list-style-type: none"> - build on knowledge and understanding of forces and energy - ask and answer questions about forces and energy and how we use them in our everyday lives - investigate what makes the best catapult based on specific criteria and explain their findings

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	<ul style="list-style-type: none"> Using straightforward scientific evidence to answer questions or to support their findings; identifying scientific evidence that has been used to support or refute ideas or argument 	
DT	<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 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 <p>Technical knowledge</p> <ul style="list-style-type: none"> understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 	<p>Become engineers and design a catapult designed to meet specific criteria</p> <p>Learn how to construct a simple catapult and then develop your own working mechanisms in pairs</p> <p>Evaluate the effectiveness of their design and suggest improvements</p>
Maths	<p>Measurement: measure, compare, add and subtract: lengths (m/cm/mm) (Y3); estimate, compare and calculate different measures (Y4);</p>	<p>Opportunity here for pupils to develop accurate measuring skills through practical work – measuring the distance the catapult travels</p>
English	<ul style="list-style-type: none"> ask relevant questions to extend their understanding and knowledge articulate and justify answers, arguments and opinions developing a broader, deeper and richer vocabulary 	