

Curriculum Links

<p>Please note:</p>	<p>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.</p>	
<p>Aims and Activities taken from the workshop booklet</p>	<p>This design and technology workshop is a teamwork activity recommended for Years 5 and 6. Pupils have to move ‘precious cargo’ from the mine to the docks, where it is transferred from a train onto ‘ships’ and exported. There are a number of problems to be solved which include the construction of a marble run, constructing and control of a level crossing and building a crane and two electric railway systems.</p> <p>It is a large scale, hands-on activity which needs a large space, such as the school hall. It incorporates elements of the science and technology curriculum such as: conductors and circuits, controllable vehicles, alarms and moving toys. The aims of this workshop are for your pupils to experience, through a ‘real’ technology task:</p> <ul style="list-style-type: none"> - listening & explaining - teamwork - problem-solving - learning about real-world applications of engineering. <p>A real engineer can be requested to visit during this workshop via our links to STEM Ambassadors. Please ask when booking.</p>	
	<p>National Curriculum</p>	<p>Non-Statutory Opportunities</p>
<p>Science</p>	<p>Working Scientifically (UKS2):</p> <ul style="list-style-type: none"> • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments 	<p>Pupils will have the opportunity to:</p> <ul style="list-style-type: none"> - build on knowledge and understanding of the science curriculum, including forces, electricity and circuits, materials and their properties. - ask and answer questions about the real-world application of science to solve problems - make predictions and draw conclusions based on observations - Investigate what works and what doesn’t and make adjustments accordingly to solve problems
<p>DT</p>	<p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of innovative, functional, appealing 	<p>Become construction engineers with a transport problem to solve!</p>

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	<p>products that are fit for purpose, aimed at particular individuals or groups</p> <ul style="list-style-type: none"> • 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] 	<ul style="list-style-type: none"> - design and construct a working marble run structure - construct and control a level crossing - design and build a working crane structure - use circuit knowledge to build an electric railway system <p>Apply knowledge from the DT curriculum to solve problems, including forces, gears, pulleys, moving toy mechanisms, levers and components of an electric circuit.</p>
Maths	<p>Statistics: interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs; solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs complete, read and interpret information in tables (Y5); calculate and interpret the mean as an average (Y6)</p>	<p><i>Opportunity to record and present data in a range of ways – no explicit links</i></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 	