

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 workshop booklet	<p>During this workshop, pupils have the opportunity to investigate the energy required to drive a simple toy and use a range of tools to construct it.</p> <p>The aims are to provide Year 3 and 4 pupils with an enjoyable, stimulating workshop; to investigate the potential energy that can be stored in an elastic band, its release and use to drive/ power a toy.</p> <p>They are taken step-by-step through the stages in making the band roller, being encouraged to measure, mark out, cut using a junior hacksaw, assemble, join and combine components accurately. They will also learn how to use the tools safely and properly and test the band roller (which they keep) and then race others. Finally they will reflect on the design, identifying ways it could be improved.</p>	
	National Curriculum	Non-Statutory Opportunities
Science	<p>Working Scientifically (LKS2)</p> <ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings. <p>Please note: Forces and Magnets (Y3) – not relevant to the workshop as it predominantly focuses on magnetic forces. Motion is no longer explicitly in the national curriculum. This workshop offers opportunity to deepen understanding of forces but is predominantly DT based.</p>	<p>Pupils will have the opportunity to:</p> <ul style="list-style-type: none"> - build on knowledge and understanding of forces and motion and how they relate to energy - ask and answer questions about energy and how we use it in our everyday lives - investigate the potential energy stored in an elastic band and how it can be released to power a toy
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, 	<p>Build their own working band roller and explore how it can be used to power a toy.</p> <ul style="list-style-type: none"> - use tools to perform tasks accurately, including measuring, cutting with a

Band Rollers Workshop

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	<p>cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <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>hacksaw and joining components</p> <ul style="list-style-type: none"> - test the finished product and evaluate its effectiveness - reflect on the design and identify ways it could be improved - consider how energy inventions have helped shape the world and the way we live, and imagine what could be invented in the future
Maths	Measurement: measure, compare, add and subtract: lengths (m/cm/mm) (Y3); estimate, compare and calculate different measures (Y4);	Opportunity here for pupils to develop accurate measuring skills through practical work
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 	