

Woodley Primary School – Knowledge Organiser

Design & Technology Focus:	Electrical Systems	Year 6	Spring
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Key Vocabulary	
Spelling	Definition
Pulley systems	A wheel on an axle or shaft that is designed to support movement and change of direction
Belt system	A loop of flexible material used to link two or more rotating shafts mechanically
Rotation	The act of turning about a centre
Motor	A machine that supplies motive power for a vehicle or other device

What I will know at the end of the unit

Objectives & Key Skills for the unit:	<p>Designing</p> <ul style="list-style-type: none"> - Children use research to explore and discuss different fairground rides they have been on. They will think about how they move, what are the components that join them together and the mechanisms that make them work by labelling different pictures of fairground rides. - Children will explore and investigate creating a framework for different fairground rides in preparation for designing and making their own fairground ride. - Children will use all the information they have acquired over the last few lessons to design their own fairground ride. They will need to consider what motor to use for the rotating part as well as what materials will create an effective stable framework. <p>Making</p> <ul style="list-style-type: none"> - Children follow their designs to create their fairground ride with a rotating part. They will need to ensure they are working safely and carefully. - Children will select from and use a wider range of tools and equipment to perform practical tasks accurately. - Children will select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none"> - Children will demonstrate their finished moving fairground ride then evaluate both their process and their finished product, either individually or with a partner. <p>Technical knowledge and understanding</p> <ul style="list-style-type: none"> - Children will understand and use mechanical systems [e.g. gears, pulleys, cams, levers and linkages] and electrical systems [e.g. series circuits incorporating motors] in their products.
Facts:	<p>How electrical circuits and motors are used to make objects rotate.</p> <p>How an electrical circuit with a motor can be used to create rotating parts.</p> <p>How pulley and belt systems can be used to transfer movement.</p> <p>Know ways to strengthen and reinforce structures.</p>

Prior Knowledge What I should already know ...

Year 4:	<p>Designing</p> <p>Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.</p> <p>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</p> <p>Making</p> <p>Order the main stages of making.</p> <p>Select from and use tools and equipment to cut, shape, join and finish with some accuracy.</p> <p>Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.</p> <p>Evaluating</p> <p>Investigate and analyse a range of existing battery-powered products.</p> <p>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</p> <p>Technical knowledge and understanding</p> <p>Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.</p> <p>Apply their understanding of computing to program and control their products.</p> <p>Know and use technical vocabulary relevant to the project.</p>
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Possible Experiences

(Any visits, experiments, guest speakers, curriculum days, home / school projects etc.)

