




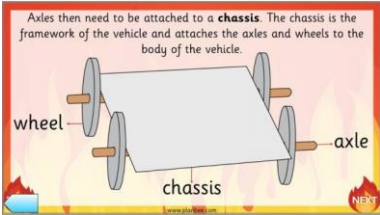
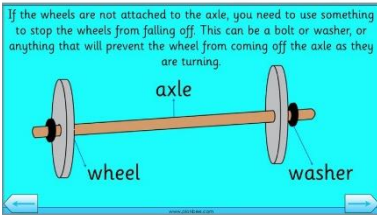























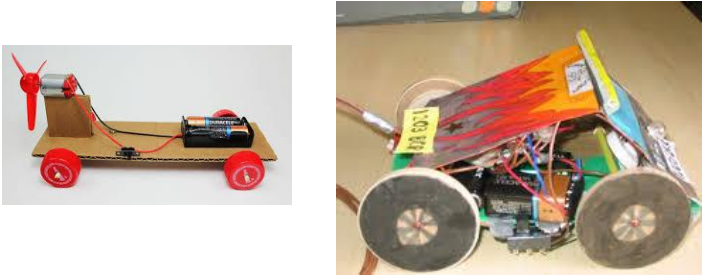
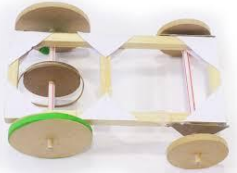
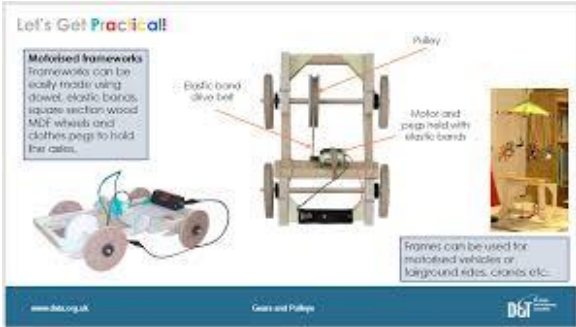



Technical Knowledge	Skills	Vocabulary												
<ul style="list-style-type: none"> With support begin to incorporate moving parts in to models. For example, use split pins to make parts move To know how to use scissors safely 	<p>Make</p> <ul style="list-style-type: none"> Uses simple tools to effect changes to materials. Handles tools, objects, construction and malleable materials safely and with increasing control. Constructs with a purpose in mind, using a variety of resources. Uses simple tools and techniques competently and appropriately. Selects appropriate resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using. <p>Evaluate</p> <ul style="list-style-type: none"> Say if they like or do not like their produce Say what they like and what they might change 	<table border="0"> <tr> <td>Turn</td> <td>Split pin</td> </tr> <tr> <td>Left</td> <td>rotate</td> </tr> <tr> <td>Right</td> <td>Sails</td> </tr> <tr> <td>Cut</td> <td>wind</td> </tr> <tr> <td>Draw</td> <td>Scissors</td> </tr> <tr> <td>decorate</td> <td>Cardboard</td> </tr> </table>	Turn	Split pin	Left	rotate	Right	Sails	Cut	wind	Draw	Scissors	decorate	Cardboard
Turn	Split pin													
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Right	Sails													
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decorate	Cardboard													
Materials and Equipment	Moving in Action	Real Life Applications												
<p>Materials</p> <ul style="list-style-type: none"> Cardboard <p>Equipment</p> <ul style="list-style-type: none"> Scissors Glue Split pins Pencil Sellotape Paint Glue  	<p>Investigate different mechanisms that turn in toys and real life objects</p> 	<p>Know that the sails on a windmill catch wind and create a turning movement (rotation)</p> <p>Know that some windmills are used to make grain</p> <p>Know that modern windmills make electricity</p> 												

Technical Knowledge	Skills	Vocabulary
<ul style="list-style-type: none"> With support include simple movement in models To know and use terms wheel, axel and winch To give a simple explanation of how the movement is created  	<p>Design</p> <ul style="list-style-type: none"> state what products they are designing and making say whether their products are for themselves or other users describe what their products are for use simple design criteria to help develop their ideas generate ideas by drawing on their own experiences use knowledge of existing products to help come up with ideas develop and communicate ideas by talking and drawing <p>Make</p> <ul style="list-style-type: none"> plan by suggesting what to do next select from a range of tools and equipment, explaining their choices select from a range of materials according to their characteristics assemble, join and combine materials <p>Evaluate</p> <ul style="list-style-type: none"> explain if they like or do not like their finished product and why suggest how they can improve their products 	<p>Wheel Pulley</p> <p> Axel string</p> <p> Winch handle</p> <p>Movement shaft</p> <p> Rotate Mechanism</p> <p> Vehicle</p> <p> Spacer</p> <p> Component</p> 
Materials and Equipment	Wheels in Action	Winches in Action
<p>Materials</p> <ul style="list-style-type: none"> Cardboard Dowling Plastic <p>Equipment</p> <ul style="list-style-type: none"> Scissors Glue Ruler Pencil Sellotape Paint Glue  	    	  



Technical Knowledge	Skills	Vocabulary														
<ul style="list-style-type: none"> • how to use learning from science and mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • Explain how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products <div style="display: flex; justify-content: space-around;">   </div>	<p>Design</p> <ul style="list-style-type: none"> • describe the purpose of their products • indicate the design features of their products that will appeal to intended users explain how particular parts of their products work • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas • model their ideas using prototypes and pattern pieces • use annotated sketches <p>Make</p> <ul style="list-style-type: none"> • select tools and equipment suitable for the task and explain choice • explain their choice of materials and components according to functional properties and aesthetic qualities • order the main stages of making • assemble, join and combine materials and components with some accuracy <p>Evaluate</p> <ul style="list-style-type: none"> • how well products work • how well products achieve their purposes • how well products meet user needs and wants 	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Wheel</td> <td style="width: 50%;">Vertical</td> </tr> <tr> <td>Axel</td> <td>Motion</td> </tr> <tr> <td>Cam</td> <td>Circuit</td> </tr> <tr> <td>Shaft</td> <td>Electricity</td> </tr> <tr> <td>Rotate</td> <td>Switch</td> </tr> <tr> <td>Rotation</td> <td>Cell</td> </tr> <tr> <td>linear</td> <td>Bulb</td> </tr> </table> <div style="text-align: center;">  </div>	Wheel	Vertical	Axel	Motion	Cam	Circuit	Shaft	Electricity	Rotate	Switch	Rotation	Cell	linear	Bulb
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Materials and Equipment	Famous Designer	Real life applications														
<p>Materials</p> <ul style="list-style-type: none"> • Hard wood • Soft wood • Cardboard • Wheels • Cams • Electric circuits <div style="display: flex; justify-content: space-around;">   </div> <p>Equipment</p> <ul style="list-style-type: none"> • Scissors • Ruler • Glue spreader • Glue gun 	<table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">Name</td> <td style="width: 30%;">Thomas Eddison</td> <td rowspan="4" style="width: 20%; text-align: center;">  </td> </tr> <tr> <td>Born</td> <td>1847</td> </tr> <tr> <td>Job</td> <td>Engineer, inventor</td> </tr> <tr> <td>Achievements</td> <td> Invented <ul style="list-style-type: none"> ○ electric power generation ○ light bulb ○ sound recording ○ motion pictures </td> </tr> </table> <div style="text-align: center;">  </div>	Name	Thomas Eddison		Born	1847	Job	Engineer, inventor	Achievements	Invented <ul style="list-style-type: none"> ○ electric power generation ○ light bulb ○ sound recording ○ motion pictures 	<p>Traditional children's toys Light it up boxes</p> <div style="display: flex; justify-content: space-around;">    </div>					
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Materials and Equipment	Famous Designer	Real life applications																		
<p>Materials</p> <ul style="list-style-type: none"> • wood • art straws • glue • card <p>Equipment</p> <ul style="list-style-type: none"> • Ruler • saw • Clamp • Sand paper • Cutting mat • Goggles 	<p>Name James Dyson</p> <p>Born 1947</p>  <p>Job Industrial engineer and designer</p> <p>Achievements Bagless vacuum cleaner</p>	<p>Careers in engineering industries:</p> <ul style="list-style-type: none"> • Entrepreneur • Automobiles • Aeronautical • Armed forces • Aerospace • Building • IT Engineering • Marine engineering 