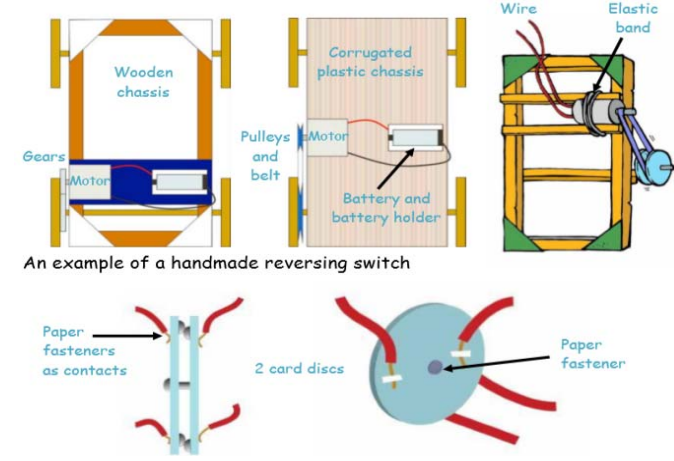



Year 5/6: Pulleys and Gears-How does a ferris wheel turn?

Subject Specific Vocabulary		Prior Learning Y1/2 or 3/4	Sticky Knowledge
gearing up or down	changing the rotational speed of a product by the use of pulleys or gears. When a small pulley or gear is used to drive a larger one the rotational speed is reduced and the product has been geared down.	Experience of axles, axle holders and wheels that are fixed or free moving. Basic understanding of electrical circuits, simple switches and components. Experience of cutting and joining techniques with a range of materials including card, plastic and wood. An understanding of how to strengthen and stiffen structures	 <p>An example of a handmade reversing switch</p> <p>Paper fasteners as contacts</p> <p>2 card discs</p> <p>Paper fastener</p> <ul style="list-style-type: none"> • Develop a simple design specification to shape their thinking. • Use exploded drawings or drawings from different perspectives to aid their plans. • Produce a detailed list of tools and equipment needed and allocate tasks within a team. • Evaluate their product against the original plan and consider the views of others when making their final evaluations. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.
gear	a wheel with teeth around its circumference.	<h2>Future Learning KS3</h2> <p>Learn to identify and solve their own design problems and understand how to reformulate problems given to them. Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties. Understand how more advanced mechanical systems used in their products enable changes in movement and force.</p> <h2>Model fairground ride</h2> 	
pulley	a grooved wheel over which a drive belt can run.		
drive belt	the belt which connects and transfers movement between two pulleys.		
driver	the gear or pulley that provides the input movement to the system.		
follower	the gear or pulley that provides the output movement to the system.		
mesh	the point where two gears join together and transfer movement.		
motor spindle	the rod on the end of the motor onto which a gear or pulley is attached.		