

PULLEYS AND GEARS – RED SQUIRREL CLASS

Key Vocabulary	
pivot	To turn on a central point.
motion	Movement from one place to another.
mechanism/ mechanical systems	Something that uses related components which act together to create a movement.
oscillating motion	Swinging from side to side in an arc, e.g. a pendulum in a clock.
reciprocating motion	Moving forwards and backwards in a straight line, e.g. cutting with a saw
linear motion	Moving in a straight line, e.g. paper trimmer
rotary motion	Turning round in a circle, e.g. a wheel.



Gears

Gears are toothed wheels that lock together and turn one another. The wheels are usually different sizes so that one gear speeds up to slow down the next gear. Gears are also used to change the direction of movement.

If the first gear wheel is smaller (and has fewer teeth) than the second one, then the second gear (bigger) doesn't have to move as quickly to keep up with the smaller gear. So the second gear wheel turns more slowly than the first.

Pulleys Pulleys are like gears but the two wheels do not lock together. Instead, the wheels are joined by a belt. Pulleys can be used to change the speed, direction or force of a movement.



The Design Process

Design Brief	Design Criteria	Generating Ideas	Prototype	Make the Product	Evaluation																			
<p>A planning document that explains what the project is, how it will be achieved and the time frame that it needs to be made in.</p>	<p>Tells you what a product must do to be successful.</p>	<p>Exploring different products and thinking about how they could be adapted. Creating an annotated sketch of your idea.</p>	<p>The first example of what the real thing will look like. It is used for testing, development and evaluation.</p>	<p>Using the annotated sketches and prototypes to help create your product.</p>	<p>Checking that the product meets the design criteria and has achieved its purpose.</p>																			
<p>Design Brief</p> <p>Setting the scene We are the recycling unit of Toulon City Council. We want to help you get the most out of your recycling service by highlighting all of the items that can be recycled but sometimes get overlooked.</p> <p>Detailing the project To help generate ideas, we would like you to draw a recycling poster to help encourage recycling and explain which items from the home can be recycled, what they can be recycled into and the benefits of recycling. The poster will be aimed at getting families involved in recycling. The project will be completed within 4 lessons.</p>	<table border="1"> <thead> <tr> <th>Priority</th> <th>Design Criteria</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Priority	Design Criteria											<table border="1"> <thead> <tr> <th>Design criteria</th> <th>Evaluation</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Design criteria	Evaluation								
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