

# Year 4 Red Kites

## DT Spring 2

# Miniature Moving Playgrounds

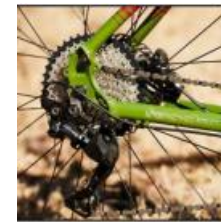
## Mechanisms

Mechanisms are the parts that make something work. Mechanisms are all around us. A set of related mechanisms used to create movement is called a mechanical system.

Examples of mechanisms:



A can opener is an example of a gear mechanism in action. When you turn the handle, it turns a small, round, metal traction gear. The notches in the gear allow it to grip onto the lip of the can. As the wheel moves around the rim of the can, the cutting wheel on the other side of the lip opens the can.

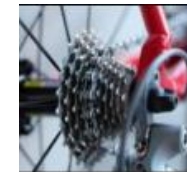


Bicycle gears are an example of a multiple gear and pulley mechanism in action. The size of the gears (and number of teeth) determines how many times the rear wheel turns for every pedal stroke. A lower, easier gear (small chain ring, big cog) helps the user to accelerate faster, whilst a higher, harder gear (big chain ring, small cog).

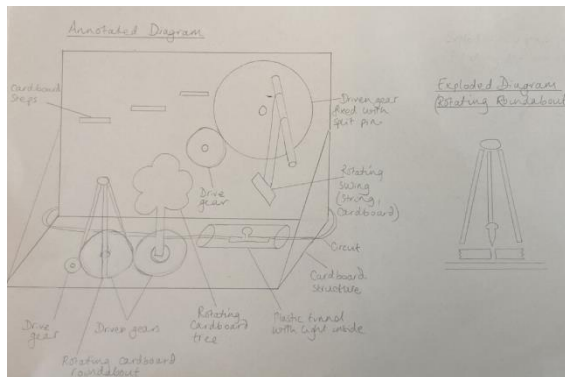
Key Vocabulary	Definition
<b>appeal</b>	The ability to attract interest and attention.
<b>axle</b>	A bar that goes through wheels, keeping them in place and allowing them to turn.
<b>battery</b>	A container that stores energy until needed.
<b>component</b>	A part of something.
<b>construct</b>	To make by joining together different components and materials.
<b>current</b>	The flow of electricity through a conductor.
<b>design</b>	Detailed plan.
<b>develop</b>	Review and amend plans as a work in progress.
<b>electrical circuit</b>	A path for the flow of an electrical current.
<b>function</b>	The purpose or role of an object or component.
<b>gear</b>	Wheels that have teeth or cogs around the edges.
<b>make</b>	To create by building from separate components.
<b>mechanism</b>	The whole or parts of a machine, mechanical system or device.
<b>plan</b>	The way something is to be done that is thought out ahead of time.
<b>purpose</b>	A reason or plan that guides an action, design or goal.

## Gears

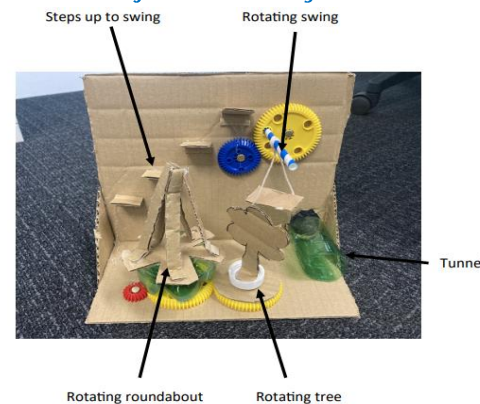
Gears are toothed wheels (cogs) that lock together and turn one another. When one gear is turned the other turns as well. The wheels are usually different sizes, so that one gear speeds up to slow down the next gear. They therefore increase the power of a turning force.



## Annotated Diagram Design



## Front View of Finished Design



## Simple Electrical Circuits

A simple electrical circuit using a battery cell, wires and a bulb. This can be drawn as a circuit diagram with symbols to represent the components.

