

Y6: Wheeled vehicles

Learning Questions

- What are the different types of wheeled vehicles?
- How can I design a wheeled vehicle? What are the steps in making a wheeled vehicle?
- What electrical components does a wheeled vehicle need?
- How can I test my wheeled vehicle?

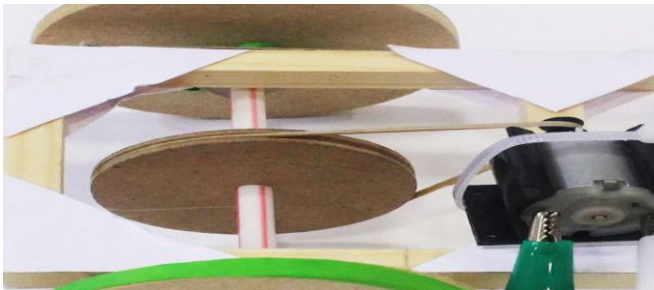
A **design** brief is used to effectively plan how to make a product against a set criterion and assess the different steps that will be needed.

A model vehicle is constructed by using a **frame**, **axle**, **wheels**, **motor** and other key parts.

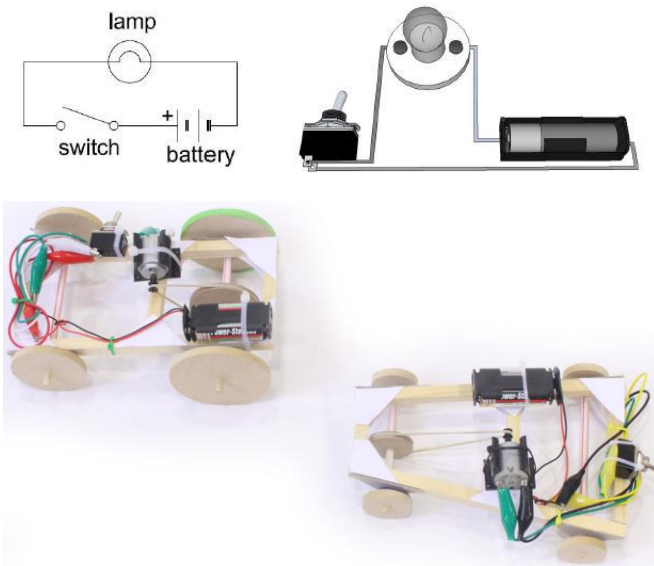


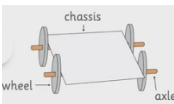
Speed and **direction** of movement can be controlled using **pulleys** and/or **gears**.

Key Knowledge
A mechanical process involving **electricity** and **pulleys** will be needed in order for the vehicle to be able to move by itself.



A **circuit** (a path in which electrons from a voltage or current source flow) includes a **cell**, **motor** and a **switch** and **electrical circuits** with switches can be used to achieve functional results.



Word	Glossary
wheeled vehicle 	a vehicle that moves on wheels and usually has a container for transporting things or people.
axle 	a rod or spindle (either fixed or rotating) passing through the centre of a wheel or group of wheels.
frame 	the main supporting structure of a motor vehicle to which all other components are attached.
prototype 	a first or preliminary version of a device or vehicle from which other forms are developed.
diagrams 	a simplified drawing showing the appearance, structure, or workings of something; a schematic representation.
motor 	a machine, especially one powered by electricity, that supplies motive power.

Design Process

Experiment

Design

Make

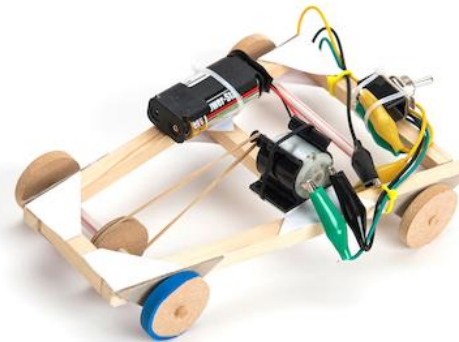
Evaluate

Y6 Ingenious Inventions:

Wheeled vehicles

What I know

Concepts I have explored	Skills I have Covered	Sources I have used
Scale	I can analyse how an invention or product has significantly changed or improved people's lives.	Survey
Innovation	I can Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.	Photos and Pictures
Enterprise	I can develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.	Measurements
Design	I can explain and use mechanical systems in their products to meet a design brief.	Prototypes
Functionality	I can build a framework using a range of materials to support mechanisms	Disassembly
Evaluation	I can demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others.	Data
Technology	I can understand and use electrical circuits that incorporate a variety of components (switches, lamps, buzzers and motors) I can make a prototype of a design	



Experiment

Design

Make

Evaluate