

Prior learning: In Year One, children designed and created their own moving picture involving levers and sliders. They learnt to use tools for cutting, shaping, joining and finishing using components such as card, paper and fabric.

Meet some brilliant designers...



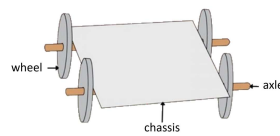
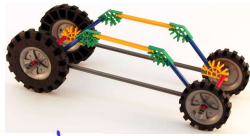
Ferdinand Porsche was a car designer, famous for designing the 'Beetle' and the Porsche cars which bear his name.



Frank Hornby was a British inventor and model designer who created 'Dinky' model cars, 'Hornby' model trains and 'Meccano' model kits.

1. How do wheels work?

We will learn how wheels work by exploring a range of model vehicles.



Research

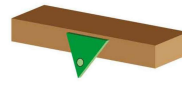


sticky knowledge

I know what a chassis, body, wheels, and axles are
I can explain how wheels and axles make a vehicle move

2. How are wheels fixed to axles and chassis?

We will learn different ways to attach wheels and axles to the chassis.



1. clothes peg

2. card triangles

3. straws

Research

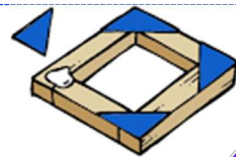


sticky knowledge

I know that wheels are attached to axles, which allow them to turn
I know different ways to attach wheels and axles to the chassis

3. How do you make strong joints?

We will learn how to make strong wooden joints.



Research



sticky knowledge

I know how to reinforce joints to make them stronger, stiffer and more stable

4. How do you use bench hooks and saws?

We will learn to use saws, bench hooks and hand drills

sticky knowledge

I know what a bench hook and a hack saw is
I can use saws and bench hooks safely to cut wood

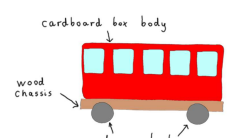
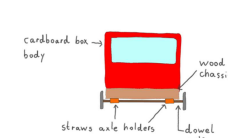


Practice



5. How do you design a vehicle?

We will plan what we want our vehicle to look like, how we will build it and what tools and equipment we need.



sticky knowledge

I can follow a design brief to produce a plan

Design



6. How do designers create wheeled vehicles?

We will use our designs and apply the knowledge and skills we have practiced to create our vehicles



sticky knowledge

I can follow a plan to produce a design

Create



7. How do designers evaluate their vehicles?

We will test our vehicles and evaluate them against the design brief



sticky knowledge

I can test my design to see if it works and make changes if needed
I can describe what works well and what I could improve in my design

Evaluate



Key vocabulary: Glossary

axle	the rod passing through the centre of a wheel	bench hook	a wooden device which holds an object in place to be cut	chassis	the base on which a vehicle is built	hack saw	round parts that help a vehicle to move
axle holder	the part of the vehicle through which the axle fits	body	the main structure of the car	dowelling	a wooden rod	wheels	a hand-powered drill