

DT

Mechanical systems: Making a slingshot car

Year 4

What I should already know

- Mechanisms are a collection of moving parts that produce a machine to move.
- A linkage mechanism is made up of a series of levers.



Technical skills

- Designing a shape that reduces air resistance.
- Drawing a net to create a structure from.
- Choosing shapes that increase or decrease speed as a result of air resistance.
- Personalising a design.
- Measuring, marking, cutting and assembling with increasing accuracy.
- Making a model based on a chosen design.
- Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.

Sticky Knowledge

All moving things have kinetic energy.

Kinetic energy is the energy that something has by being in knowledge.

Air resistance is the level of a drag on an object as it is forced through the air.

The shape of a moving object will affect how it moves due to air resistance.



Vocabulary

Aesthetic	How an object or product looks.
Air resistance	The level of drag on an object as it is forced through the air.
Chassis	The body of a car.
Design	To make, draw or write plans for something.
Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Function	The purpose of an object.
Graphics	Images which are designed to explain or advise something.
Kinetic energy	The energy that causes an object to move.
Mechanism	The parts of an object that move together as part of a machine.
Net	A flat 2D shape, that can become 3D when assembled.
Structure	Something that has been made and put together and can usually stand on its own.