

Design and make a moving toy inspired by a Greek Myth

The Ancient Greeks



Being Safe

Remove any jewellery and tie back long hair.

Use scissors correctly. Make sure the blades are closed and facing down when moving around the room.

Use equipment carefully and safely. Report any accidents immediately.

Follow cutting instructions carefully. **Measure twice and cut once.**

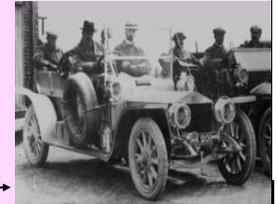
Keep your work area clean and tidy up after yourself.

Fix materials firmly when cutting or drilling using vice or bench

Follow the safety guidance from your teacher for using blades and tools.

Famous Car Manufacture: Rolls-Royce

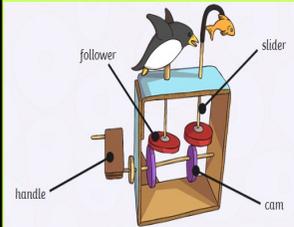
Rolls-Royce was founded in 1904 by Charles Stewart Rolls and Frederick Henry Royce. Their business soon got the reputation for their superior engineering quality and for manufacturing the 'best car in the world' - 'The Silver Ghost'.



Key Learning: Mechanisms- Cams

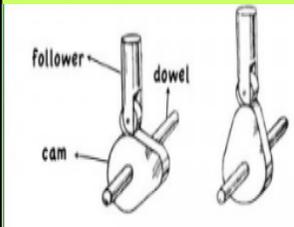
What is a Cam Mechanism?

Mechanisms make things move. A **cam** is a **mechanical system** which moves. Like all mechanisms, they need an **input** (what goes into the system) and **output** (what comes out of the system). Many mechanical toys have a cam mechanism inside to make the parts work.



A cam mechanism is made up of 4 parts: a cam, a slider, a follower and dowel shaft.

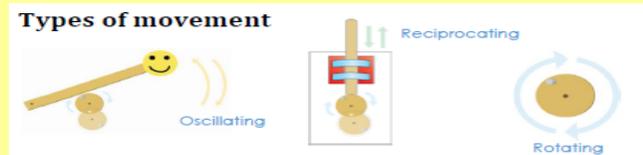
The cam mechanism is a **linkage system** which has a follower to convert **rotary movement** (moving round and round) to **reciprocating movement** (moving up and down).



As the cam is rotated by the dowelling, the follower is lifted up and down because of the shape of the cam.

Technical Knowledge and Understanding:

How can Cam Mechanisms change the direction of Movement and Type of Movement?



Oscillating:

Moving to and fro around a pivot point.

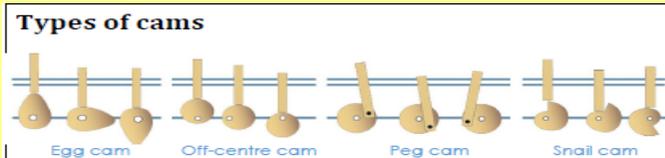
Reciprocating :

Moving backwards and forwards in a straight line.

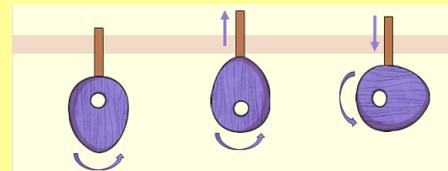
Rotary:

Moving round and round in a circle.

Cams move in the 3 different ways above, the movements will depend on the cam's shape.



Egg-shaped cam



Dwell - a slight regular pause in the motion of a machine.

The shape of this cam means that the cam will be pushed up, pause (dwell), falls down then dwells again.

Key Vocabulary:

cam	A mechanism which changes one kind of movement to another. They can be: snail cam, off-centre cam, peg cam, pear-shaped cam
crank	The handle connected to the dowel shaft which turns the cam
handle	
follower	The device that follows the movement of the cam: a lever or slider
framework	The outer framework of the model, eg, a box or wooden frame
input	What goes into a system
mechanism	The parts which make something move
output	What comes out of a system
oscillating movement	Moving to and fro around a pivot point, as in a lever
reciprocating movement	Backwards and forwards movement in a straight line, as in a slider
rotary movement	Movement that goes round.

