

# Making it Move

Different mechanical systems can be used to make an object move. The parts of a machine that create movement are called mechanisms. Mechanisms include sliders, levers, linkages, wheels, axles and cams.

## Sliders

Sliders move from side to side or up and down.

Bolts use a slider mechanism.



## Levers

Levers consist of a rigid bar that rotates around a fixed point called a fulcrum or pivot.

A seesaw is an example of a lever mechanism.



## Linkages

Linkages combine the slider and lever mechanisms. They are made from bars joined with pivots.

A scissor lift uses a linkage mechanism.



## Wheels and axles

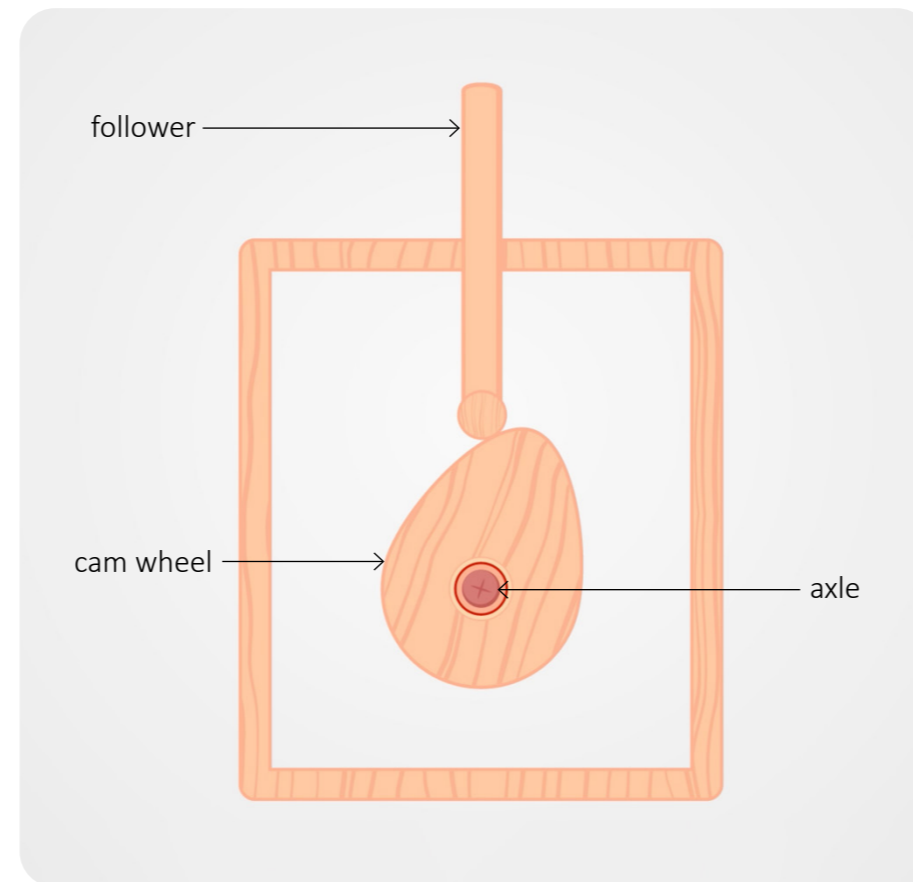
Axles are rods which allow wheels to rotate to help a vehicle move easily.

Wheels and axles are used on cars and pull-along carts.



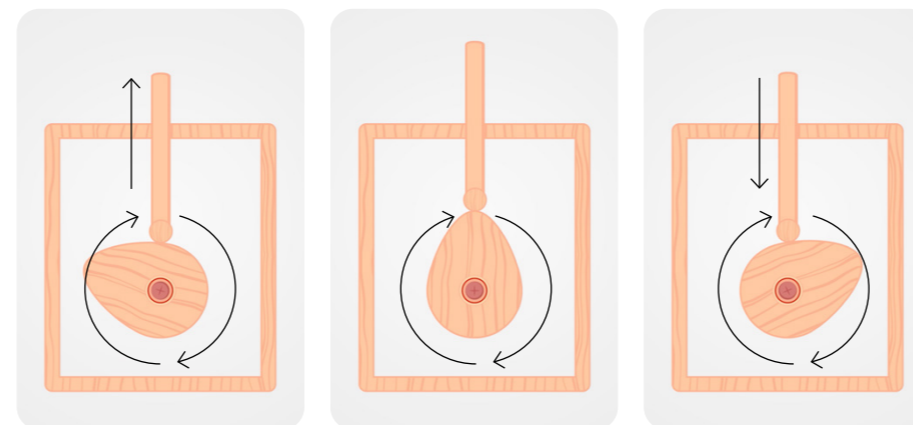
# Cam mechanism

A cam mechanism is used to change rotational movement into up and down movement. It consists of three parts: a cam wheel, an axle and a follower.



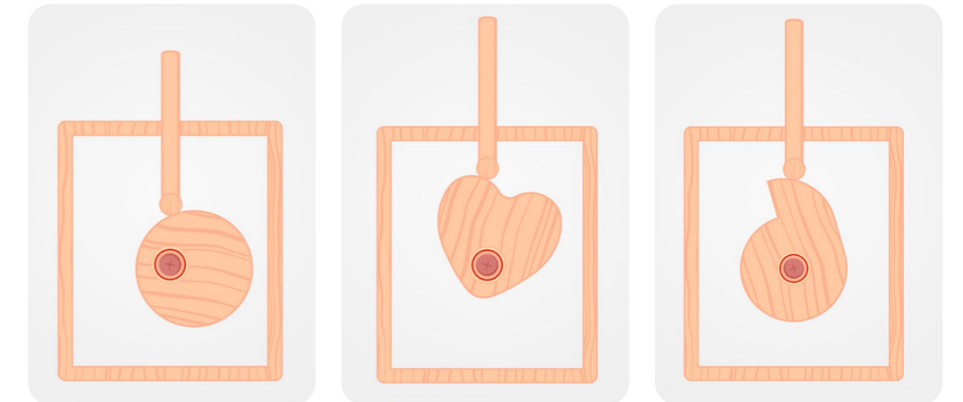
## Movement created by a cam

When the axle turns, the cam wheel rotates. This makes the follower that rests on the cam wheel move up and down, following the shape of the wheel's edge.



# Different-shaped cams

Cam wheels come in different shapes to do particular jobs. Each shape makes the follower move up and down in a different pattern. Some are used to open and close valves in engines, and others allow carousel horses to move up and down.



circular cam

heart cam

snail cam

## Automata

Automata are mechanical objects or models that can be relatively self-operating. They often contain a range of cam mechanisms that create movement.



The Silver Swan automaton, Bowes Museum, Barnard Castle

## Glossary

- follower** Part of a mechanism that follows the movement of another part.
- mechanism** A system of parts that work together in a machine.

