



### What should I already know?

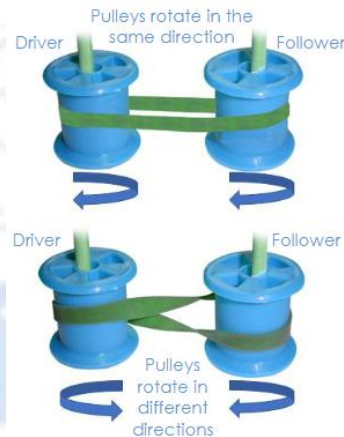
- I have experience of axles, axle holders and wheels that are fixed or free moving.
- I have used cutting joining techniques with a range of materials including card, plastic and wood.
- I know that I can strengthen and stiffen structures.

### Pulleys

A pulley is a simple machine made with the help of a grooved wheel and a rope, a wire, or a chain. In a pulley mechanism, the load is attached to one end of the rope, and the force is applied to the other end. The applied force is responsible for either lifting or lowering the load. As the name suggests, a pulley mechanism is used to pull or lift objects with ease. Depending on the type of application, the pulley system can have a fixed axle, a movable axle, or a combination of both.

### DT

Inventors look for problems so that they can plan, design, make and evaluate solutions to make the world better.



### Technical vocabulary

pulley	A grooved wheel over which a drive belt can run
drive belt	The belt which connects and transfers movement between two pulleys
mechanical system	A set of related parts or components used to create movement
axle	A rod passing through the centre of a wheel
force	An influence that changes movement
load	The amount of weight carried

## SQUASHED TOMATO CHALLENGE



### Pulleys in real life

Pulleys are used in a variety of different mechanical systems

construction equipment	theatre curtains	rock climbers	exercise equipment
wells	flagpoles	blinds	lifts
garage doors		sails on sailboat	

### Working as a team

- I need to communicate with the other members of my team.
- I need to have a can do attitude towards finding a solution.
- I need to be respectful to the other members of my team.
- I need to reflect on the designs to suggest improvements.
- I need take responsibility for my part of the team.

### Talk like a designer

- The purpose of my product is...
- In my opinion, I feel that I can improve this by...
- I believe this product is (good/bad) because...
- I found the process/skill of ... most challenging, because...

