

Year 5: Forces

Examples of **forces** in action:



Water resistance and **air resistance** are forms of **friction**. **Friction** is sometimes helpful and sometimes unhelpful. For example, **air resistance** is helpful as it stops the skydiver hitting the ground at high speed. **Friction** on a bike chain can make the bike harder to pedal so it is unhelpful.

Forces		Isaac Newton
start to move.	stop moving.	
change direction.	move faster.	
change its shape.	move more slowly.	
<p>Forces can make an object...</p>		<p>Isaac Newton is famously thought to have developed his theory of gravity when he saw an apple fall to the ground from an apple tree.</p>
<p>Mass is how much matter is inside an object. It is measured in kilograms (kg).</p>	<p>Weight is how strongly gravity is pulling an object down. It is measured in newtons (N).</p>	

Key Vocabulary

Air resistance - A force that is caused by air with the force acting in the opposite direction to an object moving through the air

Force - A push or pull upon an object resulting from its interaction with another object

Friction - The resistance that one surface or object encounters when moving over another

Gears - A toothed wheel that works with others to alter the relation between the speed of a driving mechanism (e.g. engine) and the speed of the driven parts (e.g. the wheels)

Gravity - The force that attracts a body towards the centre of the earth

Levers - A rigid bar resting on a pivot that is used to move a heavy or firmly fixed load

Mass - The weight measured by an objects acceleration under a given force or by the force exerted on it by gravity

Pull force - To draw or haul towards oneself or itself, in a particular direction

Pulleys - A wheel with a grooved rim around that changes the direction of a force applied to the cord

Push force - To move something in a specific way by exerting force

Water resistance - A force that is caused by water with the force acting in the opposite direction to an object moving through the water