



# FORCES

**Mass** is the total amount of material an object is made of.

It is not a force and is measured in kilograms.

Forces are measured in **newtons** using a force meter.



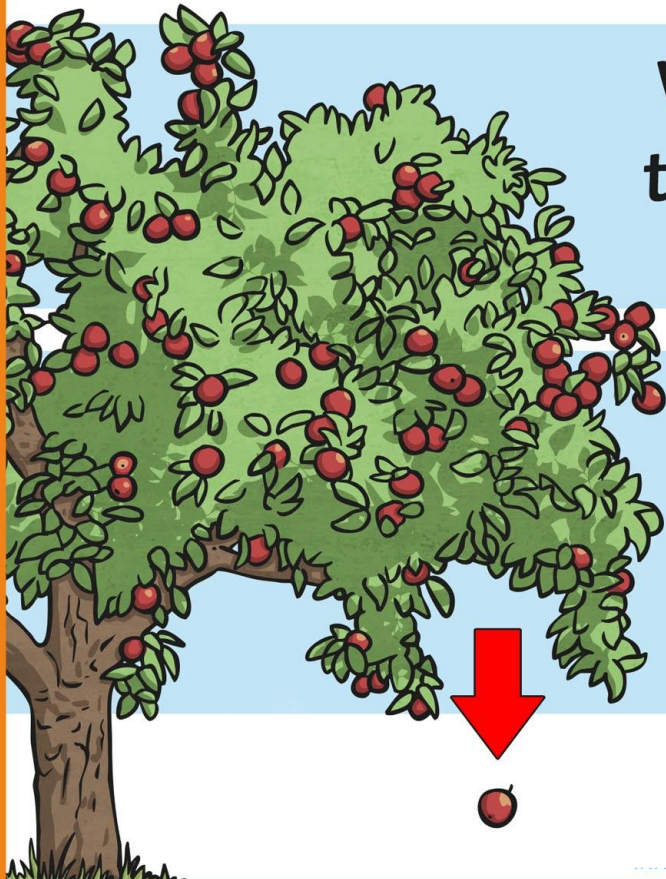
The word 'newton' comes from Sir Isaac Newton, the first person to theorise about forces.



# GRAVITY

**Gravity** is the force that pulls the Earth and other planets towards the Sun.

It also keeps us and other objects on the ground.



Weight is the pull on the mass of an object by the Earth.

We can represent gravity with an arrow pointing towards the Earth.

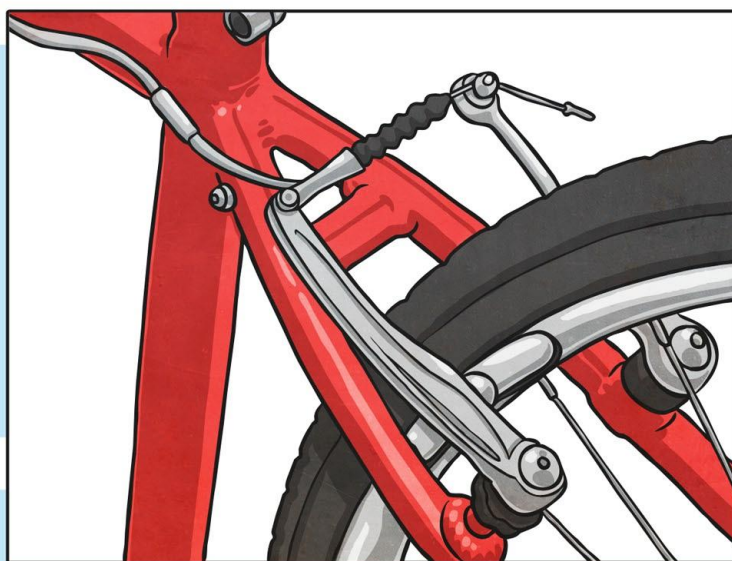




# FRICTION

**Friction** is the force that stops or slows us when trying to move an object.

If the object is already moving, friction is **slowing it down.**



Friction is a push against a moving object.

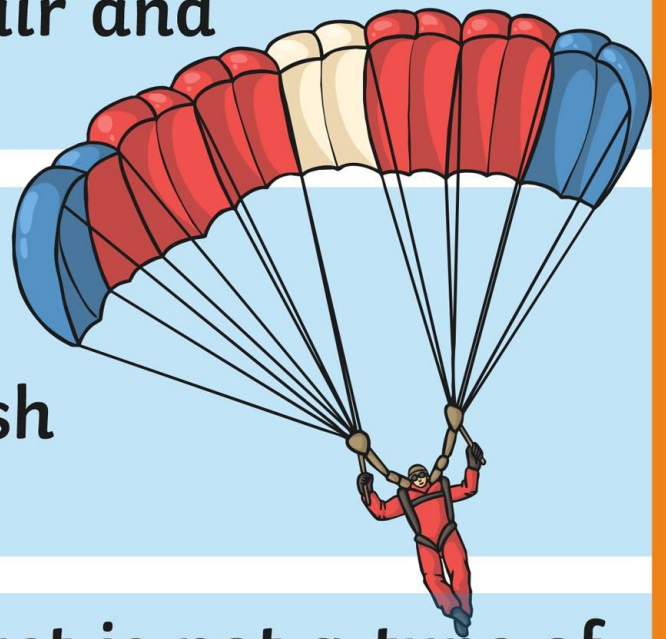
It happens when there is contact between two materials, like a brake pad on a bicycle tyre.



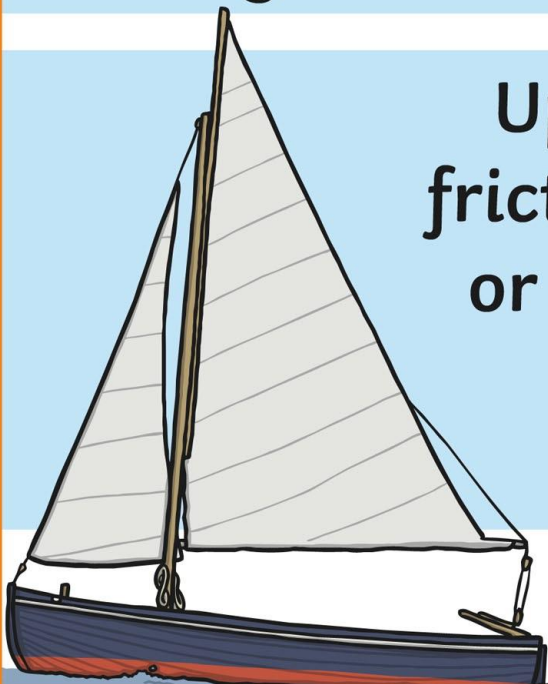
# AIR RESISTANCE

**Air Resistance** is a type of friction that occurs between the air and another material.

It is the force that acts in parachutes so that we don't crash to the ground.



Upthrust is not a type of friction. It is when the gas or liquid below something pushes up more than the gas or liquid above.







# MAGNETISM

Magnetism is the force that occurs when a magnet pulls a metal or another magnet towards itself.

Magnetic Metals are attracted to magnets. Examples include iron, nickel and cobalt.

Steel is a mixture of metals. It is magnetic because it contains iron.

