

Year 5 Science Knowledge Organiser - Forces

<u>Word</u>	<u>Definition</u>
Air Resistance	Air resistance is a type of friction between air and another material.
Buoyancy	The ability that something has to float on a liquid or in the air.
Force	A force is a push or a pull. Forces make objects start moving, speed up, slow down, or change direction.
Friction	When one surface moves against another, the rubbing force that tries to stop them is called friction. It gives us grip.
Forcemeter	Piece of equipment used to measure the size of a force.
Gravity	The force which causes things to drop to the ground.
Mass	A measure of the amount of matter in an object (measured in grams and kilograms). It is the same whether you are on Earth or in Space.
Mechanisms	A part, often consisting of a set of smaller parts, which performs a particular function.
Newton (N)	The unit on measuring force.
Simple Machines	Levers, pulleys and gears are all types of simple machines.
Uplthrust	An upward push or thrust.
Water Resistance	A force that slows things down that are moving through water.

Sticky Knowledge is in red!

LEVERS:

A way to lift heavy weights using the least amount of effort. The longer the lever the easier it is to lift. The fulcrum is where the lever pivots in order to lift the load. The closer the fulcrum is to the load the easier it is to lift.

PULLEYS:

Used like levers to lift loads with less effort. Rope is passed through a pulley and then is returned back round to be pulled.

GEARS:

They are toothed wheels which lock together and turn each other. Connected gears can increase speed and increase force.

Different types of force:

Contact - Contact forces are forces that require contact to push or pull another object e.g. friction and air, water and surface resistance.

Non-contact - Forces acting at a distance are forces that do not require direct contact between the objects to be able to push or pull them. Two examples are gravity and magnetism

Friction - Friction is a 'sticking' force - the resistance that a surface or object encounters when moving over another surface or object.

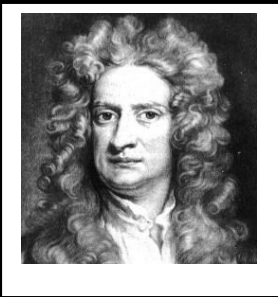
Air resistance - Air resistance is the force on an object moving through air. Air resistance affects how fast or slowly objects move through the air.

Water resistance - Water resistance is the force on objects floating on or moving in water.

Gravity - Gravity is the pulling force acting between the Earth and a falling object. Gravity pulls objects to the ground

Unbalanced forces - can cause an object to change its motion. If an object is at rest and an unbalanced force pushes or pulls the object, it will move

Balanced forces - do not cause a change in motion. When two forces are the same strength but act in opposite directions, they are called balanced forces.



A significant Scientist - Linked to the topic of Forces:

Sir Isaac Newton (1642 - 1726)

He was an English scientist and mathematician. He 'discovered' the concept of gravity when sitting under a tree and an apple fell to the ground near him.