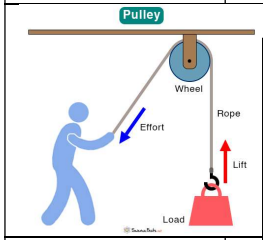
Rolvenden Primary School – Knowledge Organiser

Vocabulary

forces	An influence that can change the motion of an object (push or pull)
gravity	A pulling force that attracts a body towards the centre of the Earth, or any other physical body with mass.
weight	The measure of the force of gravity on an object. Often confused with mass.
mass	Mass is the amount of matter or substance that makes up an object. It will never change.
friction	Resistance is caused when one object rubs against another.
air resistance	The force which pushes in the opposite direction against an object moving through air.
water resistance	The force which pushes in the opposite direction against an object moving through water.
buoyancy	If an object is buoyant, it will float. This is because the weight is equal to the up thrust.
streamlined	A design which will make movement through water or air easier by reducing air or water resistance.
up thrust	The force which pushes objects up, usually in water.

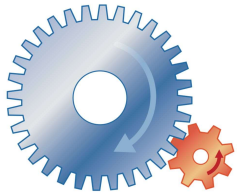
Mechanisms

Pulley	A small wheel over which a belt, rope or chain is pulled to lift or lower a heavy object



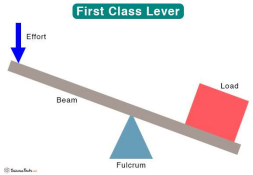
The human is pulling down. The pulley changes the direction of the force in order to lift the load.

Gear/Cogs	A … triangular 'teeth' around the edge, which is used to change the direction of a force.



The larger cog is spinning clockwise. The teeth are locked with the smaller cog, which is turning anti-clockwise.

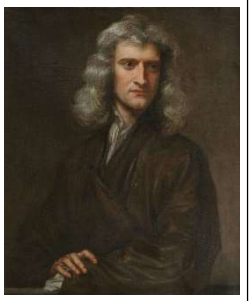
Levers	A … (fulcrum) is used to move a heavy or firmly fixed load with one end when force is applied to the other.



The force is being applied downwards. The position of the fulcrum makes the load easier to lift.

Mass vs Weight

The mass of the Earth is bigger than the Moon. Therefore, the force of gravity on Earth is stronger. This means that objects will weigh more on Earth than on the Moon. The mass of that same object does not change.



Isaac Newton is credited with discovering gravity. He supposedly observed an apple fall from a tree, which led him to making his discovery.

Forces