

Science Y5/6: Spring 1

Knowledge Organiser

Forces

Forces are Pushes and Pulls

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.



Isaac Newton

Born 4th January 1643

Died 31st March 1727 (Kensington, London)

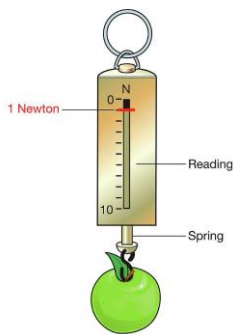
He was a mathematician and a physician

Mass is how much matter is inside an object. It is measured in kilograms (kg).

Let's measure mass in kilograms.

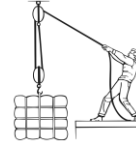


Weight is how strongly gravity is pulling an object down. It is measured in Newtons (N).



Pulleys, Gears/Cogs and Levers

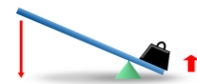
Pulleys can be used to make a small force lift a heavier load. The more wheels in a pulley, the less force is needed to lift a weight.



Gears or cogs can be used to change the speed, force or direction of a motion. When two gears are connected, they always turn in the opposite direction to each other.



Levers can be used to make a small force lift a heavier load. A lever always rests on a pivot.



Air Resistance

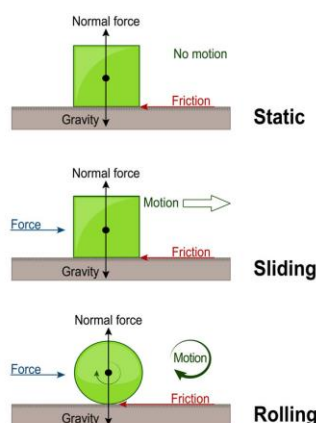
A type of friction caused by air pushing against any moving object.



Friction

A force that acts between two surfaces or objects that are moving, or trying to move, across each other.

FRICTION



Water Resistance

A type of friction caused by water pushing against any moving object.

