

Keywords/ Definitions	
Keyword	Meaning
Air resistance (drag)	The force air exerts on a moving object.
Friction	A force between two surfaces that slows things down.
Weight	the force that acts on mass due to gravity and is therefore measured in newtons (N)
Mass	Measure of the amount of matter an object is made out of. Mass is measured in kilograms (kg)
Upthrust	The upward force when something is in a liquid
Magnetic Force	The force produced by a magnet
Balanced force	Two forces are equal and opposite so the resultant force = 0N.
Resultant Force	The sum of all the forces acting on an object
Equilibrium	State of an object when opposing forces are balanced
Compression	Force squashing or pushing together
Linear relationship	When two variables are graphed and show a straight line which goes through the origin, they can be called directly proportional.

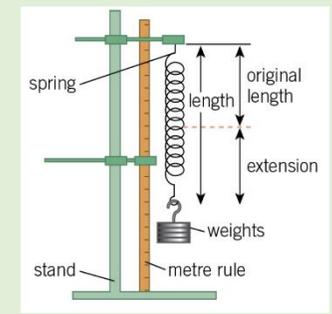
KS3 Physics: Forces

- ### Key Facts
1. A force is a push or a pull that acts on an object due to the interaction with another object.
 2. Force is measured in newtons (N).
 3. A force meter, also known as a newton meter, can be used to measure the size of a force.
 4. **Contact Forces** – The objects are physically touching e.g. Friction, Air Resistance, Tension
 5. **Non-Contact Forces** – The objects are physically separated. E.g. Gravitational, Electrostatic, Magnetic
 6. If forces are not balanced the object will speed up, slow down or change direction.
 7. **Weight = mass x gravitational field strength**

$$W = m \times g$$
 The **gravitational field strength** on Earth is 10 N/kg.

Numeracy - Hooke's Law Practical

Aim: To investigate how adding mass to a spring affects the springs extension.



Independent Variable: Mass added (g)
 Dependent Variable: Extension (cm)
 Controlled Variable: Spring, Slotted Mass

- Method:**
1. Set up the equipment as shown in the diagram.
 2. Add 10g mass to the holder and record the spring length.
 3. Add another 10g and record the new spring length.
 4. Take away the previous spring length from the new length to calculate extension.
 5. Repeat by adding 100g masses until 100g is reached.

