

# Edexcel GCSE Physics

## Topics 2.14-2.19 - Forces

### Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



What is the name given to the single force that is equivalent to all the other forces acting on a given object?



What is the name given to the single force that is equivalent to all the other forces acting on a given object?

The resultant force.



State Newton's first law for a stationary object.



State Newton's first law for a stationary object.

If the resultant force on a stationary object is zero, the object will remain at rest.



State Newton's first law for a moving object.



State Newton's first law for a moving object.

If the resultant force on a moving object is zero, the object will remain at constant velocity (same speed in same direction).



State the defining equation for Newton's  
Second Law.





State the defining equation for Newton's Second Law.

Resultant force = Mass x Acceleration

$$F = ma$$



State Newton's Second Law in words.



State Newton's Second Law in words.

An object's acceleration is directly proportional to the resultant force acting on it and inversely proportional to its mass.



# What is weight?



## What is weight?

The force that acts on an object due to gravity and the object's mass.



# What quantities does weight depend on?



What quantities does weight depend on?

Weight = mass x gravitational field strength

- The object's mass
- The gravitational field strength at the given position in the field



# What is the unit used for weight?





What is the unit used for weight?

The Newton (N).



What is the unit used for gravitational field strength?



What is the unit used for gravitational field strength?

N/kg



What piece of equipment can be used to measure an object's weight?



What piece of equipment can be used to measure an object's weight?

A calibrated spring-balance or newton-meter.

