CCEA

GCSE Equations

Double / Physics

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Equations in **bold are for Higher Tier** only

Equations highlighted in blue are for Physics only (not Double)

average speed = distance moved / time taken

$$\text{average speed} = \frac{\text{initial speed + final speed}}{2}$$

$$\text{rate of change of speed} = \frac{\text{final speed – initial speed}}{\text{time taken}}$$

average velocity = displacement / time

$$\textbf{average velocity} = \frac{\textbf{initial velocity + final velocity}}{\textbf{2}}$$

$$\textbf{acceleration} = \frac{\textbf{final velocity - initial velocity}}{\textbf{time taken}}$$

resultant force = mass x acceleration

weight = mass x gravitational field strength

applied force = spring constant x extension

pressure = force / area

moment = force x perpendicular distance from the pivot

density = mass / volume

$$\text{efficiency} = \frac{\text{useful output energy}}{\text{total input energy}}$$

work = force x distance

power = energy transferred / time taken

power = work done / time taken

kinetic energy = ½ x mass x speed^2

gravitational potential energy = mass x gravitational field strength x vertical height

wave velocity = frequency x wavelength

charge = current x time

voltage = current x resistance

energy = power x time

power = current x voltage

$$\frac{\textbf{number of turns in the secondary coil}}{\textbf{number of turns in the primary coil}} = \frac{\textbf{voltage across the secondary coil}}{\textbf{voltage across the primary coil}}$$