# SUVAT

S: Displacement $(m)$
U: Initial Velocity $(ms^{-1})$
V: Final Velocity $(ms^{-1})$
A: Acceleration $(ms^{-2})$
T: Time $(s)$

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$$v = u + at$$

$$v^2 = u^2 + 2as$$

$$s = ut + \frac{1}{2}at^2$$

$$s = vt - \frac{1}{2}at^2$$

$$s = \frac{1}{2}(u+v)t$$

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Under gravity $a = g\left(-9.8\text{ms}^{-1}\right)$

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## On a speed time graph:
Area is distance travelled
Gradient is acceleration