

**Data Sheet**  
**GCSE (9–1) Gateway Combined Science A (Physics)**  
**(J250/05, 06 & 11, 12)**

The information in this sheet is for the use of candidates following GCSE (9–1)  
Combined Science A (J250/05, 06 & 11, 12)

A copy of this sheet will be provided as an insert within the question paper for each  
component.

Copies of this sheet may be used for teaching.

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## Equations in physics

$(\text{final velocity})^2 - (\text{initial velocity})^2 = 2 \times \text{acceleration} \times \text{distance}$

change in thermal energy = mass x specific heat capacity x change in temperature

thermal energy for a change of state = mass x specific latent heat

energy transferred in stretching =  $0.5 \times \text{spring constant} \times (\text{extension})^2$

potential difference across primary coil x current in primary coil = potential difference across secondary coil x current in secondary coil

**Higher tier only -**

**force on a conductor (at right angles to a magnetic field) carrying a current = magnetic field strength x current x length**

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