

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
GCSE (9–1)  
J250 05/06/11/12  
COMBINED SCIENCE A  
(GATEWAY SCIENCE) PHYSICS  
DATA SHEET (INSERT)  
JUNE 2018  
MODIFIED ENLARGED 24pt**

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## **INFORMATION**

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for the use of candidates following  
GCSE (9–1) Combined Science A (Physics)  
(J250 05/06/11/12).**



## Equations in physics

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

$$\text{change in thermal energy} = \text{mass} \times \text{specific heat capacity} \times \text{change in temperature}$$

$$\begin{aligned} &\text{thermal energy for a change in state} \\ &= \text{mass} \times \text{specific latent heat} \end{aligned}$$

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

$$\begin{aligned} &\text{potential difference across primary coil} \\ &\times \text{current in primary coil} \\ &= \text{potential difference across secondary coil} \\ &\times \text{current in secondary coil} \end{aligned}$$

## HIGHER TIER ONLY

$$\begin{aligned} &\text{force on a conductor (at right angles to} \\ &\text{a magnetic field) carrying a current} = \\ &\text{magnetic field strength} \times \text{current} \times \text{length} \end{aligned}$$

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