



Oxford Cambridge and RSA

Autumn 2021

GCSE (9–1) Physics A (Gateway Science)

J249 01/02/03/04

Data Sheet (Insert)



INSTRUCTIONS

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INFORMATION

- This document has **2** pages.

Equations in physics

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

thermal energy for a change in state = mass × specific latent heat

for gases: pressure × volume = constant

(for a given mass of gas and at a constant temperature)

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

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

potential difference across primary coil × current in primary coil =

potential difference across secondary coil × current in secondary coil

Higher tier only –

pressure due to a column of liquid = height of column × density of liquid × g

**force on a conductor (at right angles to a magnetic field) carrying a current =
magnetic flux density × current × length**

**potential difference across primary coil ÷ potential difference across secondary coil = number
of turns in primary coil ÷ number of turns in secondary coil**

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