



Oxford Cambridge and RSA

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

J249 01/02/03/04

Data Sheet (Insert)

June 2018



INSTRUCTIONS

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INFORMATION

- The information in this Data Sheet is for the use of candidates following GCSE (9–1) Physics A (J249 01/02/03/04).
- This document consists of **2** pages.

Equations in physics

change in thermal energy = mass \times specific heat capacity \times change in temperature

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

for gases: pressure \times 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 \times current in primary coil =

potential difference across secondary coil \times current in secondary coil

Higher tier only –

pressure due to a column of liquid = height of column \times density of liquid \times g

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

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

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