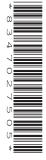


# Autumn 2021

GCSE (9–1) Physics B (Twenty First Century Science)

J259 01/02/03/04

**Data Sheet** 



## **INSTRUCTIONS**

• Do **not** send this Data Sheet for marking. Keep it in the centre or recycle it.

## **INFORMATION**

• This document has 2 pages.

# **Equations in physics**

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

energy to cause a change in state = mass × specific latent heat

for gases: pressure × volume = constant

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

 $(final speed)^2 - (initial speed)^2 = 2 \times acceleration \times distance$ 

energy stored in a stretched spring = ½ x spring constant x (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 = magnetic flux density × current × length of conductor

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

change in momentum = resultant force × time for which it acts



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