



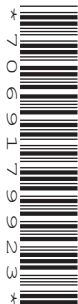
Oxford Cambridge and RSA

# **GCSE (9–1) Combined Science B (Twenty First Century Science)**

**J260 04/08**

Data Sheet (Insert)

**June 2018**



## **INSTRUCTIONS**

- Do not send this Data Sheet for marking; it should be retained in the centre or destroyed.

## **INFORMATION**

- The information in this Data Sheet is for the use of candidates following GCSE (9–1) Combined Science B (Combined Science) (J260 04/08).
- This document consists of **4** pages.

# The Periodic Table of the Elements

(1) (2) (3) (4) (5) (6) (7) (8)

Key
atomic number
Symbol
name
relative atomic mass

atomic number Symbol name relative atomic mass												atomic number Symbol name relative atomic mass																																													
1 H hydrogen 1.0	2 He helium 4.0																																																								
3 Li lithium 6.9	4 Be beryllium 9.0																																																								
11 Na sodium 23.0	12 Mg magnesium 24.3																																																								
19 K potassium 39.1	20 Ca calcium 40.1	38 Sr strontium 87.6	37 Rb rubidium 85.5	55 Cs caesium 132.9	56 Ba barium 137.3	87 Fr francium	88 Ra radium	89–103 actinoids	104 Rf rutherfordium	105 Db dubnium	106 Sg seaborgium	107 Bh bohrium	108 Hs hassium	109 Mt meitnerium	110 Ds darmstadtium	111 Rg roentgenium	112 Cn copernicium	114 Fl flerovium	116 Lv livermorium																																						
31 Ga gallium 69.7	32 Ge germanium 72.6	33 As arsenic 74.9	34 Se selenium 79.0	35 Br bromine 79.9	36 Kr krypton 83.8	51 Sb antimony 121.8	52 Te tellurium 127.6	53 I iodine 126.9	54 Xe xenon 131.3	81 Tl thallium 204.4	82 Pb lead 207.2	83 Bi bismuth 209.0	84 Po polonium	85 At astatine	86 Rn radon																																										
49 In indium 114.8	50 Sn tin 118.7	51 Sb antimony 121.8	52 Te tellurium 127.6	53 I iodine 126.9	54 Xe xenon 131.3																																																				
63 Cu copper 63.5	64 Zn zinc 65.4	65 Ga gallium 69.7	66 Ge germanium 72.6	67 As arsenic 74.9	68 Se selenium 79.0	69 Br bromine 79.9	70 Kr krypton 83.8	71 Rb rubidium 85.5	72 Sr strontium 87.6	73 Y yttrium 88.9	74 Zr zirconium 91.2	75 Nb niobium 92.9	76 Mo molybdenum 95.9	77 Tc technetium	78 Ru ruthenium 101.1	79 Rh rhodium 102.9	80 Pd palladium 106.4	81 Ag silver 107.9	82 Cd cadmium 112.4	83 In indium 114.8	84 Sn tin 118.7	85 Sb antimony 121.8	86 Te tellurium 127.6	87 I iodine 126.9	88 Xe xenon 131.3	89 Kr krypton 83.8	90 Br bromine 79.9	91 Se selenium 79.0	92 As arsenic 74.9	93 Ge germanium 72.6	94 Ga gallium 69.7	95 Zn zinc 65.4	96 Cu copper 63.5	97 Ni nickel 58.7	98 Co cobalt 58.9	99 Fe iron 55.8	100 Mn manganese 54.9	101 Cr chromium 52.0	102 V vanadium 50.9	103 Ti titanium 47.9	104 Sc scandium 45.0	105 Ca calcium 40.1	106 K potassium 39.1	107 Ar argon 39.9	108 Cl chlorine 35.5	109 S sulfur 32.1	110 P phosphorus 31.0	111 Si silicon 28.1	112 Al aluminium 27.0	113 B boron 10.8	114 C carbon 12.0	115 N nitrogen 14.0	116 O oxygen 16.0	117 F fluorine 19.0	118 Ne neon 20.2	119 He helium 4.0	120 H hydrogen 1.0

## **Equations in physics**

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

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

$$\text{energy for a change of state} = \text{mass} \times \text{specific latent heat}$$

$$\text{energy stored in a stretched spring} = \frac{1}{2} \times \text{spring constant} \times (\text{extension})^2$$

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

**Higher tier only –**

$$\text{force} = \text{magnetic flux density} \times \text{current} \times \text{length of conductor}$$

$$\text{change in momentum} = \text{resultant force} \times \text{time for which it acts}$$

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