



Oxford Cambridge and RSA

**November 2020**

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

**J260 04/08**

Data Sheet



**INSTRUCTIONS**

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

**INFORMATION**

- This document has **4** pages.

# The Periodic Table of the Elements

(1) (2)

(3)

(4)

(5)

(6)

(7)

(8)

<b>Key</b>
atomic number
<b>Symbol</b>
name
relative atomic mass

1

1	<b>H</b>	hydrogen	1.0
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2

3	<b>Li</b>	lithium	6.9
4	<b>Be</b>	beryllium	9.0
11	<b>Na</b>	sodium	23.0
12	<b>Mg</b>	magnesium	24.3

19	<b>K</b>	potassium	39.1	20	<b>Ca</b>	calcium	40.1	21	<b>Sc</b>	scandium	45.0	22	<b>Ti</b>	titanium	47.9	23	<b>V</b>	vanadium	50.9	24	<b>Cr</b>	chromium	52.0	25	<b>Mn</b>	manganese	54.9	26	<b>Fe</b>	iron	55.8	27	<b>Co</b>	cobalt	58.9	28	<b>Ni</b>	nickel	58.7	29	<b>Cu</b>	copper	63.5	30	<b>Zn</b>	zinc	65.4	31	<b>Ga</b>	gallium	69.7	32	<b>Ge</b>	germanium	72.6	33	<b>As</b>	arsenic	74.9	34	<b>Se</b>	selenium	79.0	35	<b>Br</b>	bromine	79.9	36	<b>Kr</b>	krypton	83.8		
37	<b>Rb</b>	rubidium	85.5	38	<b>Sr</b>	strontium	87.6	39	<b>Y</b>	yttrium	88.9	40	<b>Zr</b>	zirconium	91.2	41	<b>Nb</b>	niobium	92.9	42	<b>Mo</b>	molybdenum	95.9	43	<b>Tc</b>	technetium	98.0	44	<b>Ru</b>	ruthenium	101.1	45	<b>Rh</b>	rhodium	102.9	46	<b>Pd</b>	palladium	106.4	47	<b>Ag</b>	silver	107.9	48	<b>Cd</b>	cadmium	112.4	49	<b>In</b>	indium	114.8	50	<b>Sn</b>	tin	118.7	51	<b>Sb</b>	antimony	121.8	52	<b>Te</b>	tellurium	127.6	53	<b>I</b>	iodine	126.9	54	<b>Xe</b>	xenon	131.3		
55	<b>Cs</b>	caesium	132.9	56	<b>Ba</b>	barium	137.3	57-71	lanthanoids					72	<b>Hf</b>	hafnium	178.5	73	<b>Ta</b>	tantalum	180.9	74	<b>W</b>	tungsten	183.8	75	<b>Re</b>	rhenium	186.2	76	<b>Os</b>	osmium	190.2	77	<b>Ir</b>	iridium	192.2	78	<b>Pt</b>	platinum	195.1	79	<b>Au</b>	gold	197.0	80	<b>Hg</b>	mercury	200.6	81	<b>Tl</b>	thallium	204.4	82	<b>Pb</b>	lead	207.2	83	<b>Bi</b>	bismuth	209.0	84	<b>Po</b>	polonium	209	85	<b>At</b>	astatine	210	86	<b>Rn</b>	radon	222
87	<b>Fr</b>	francium	223	88	<b>Ra</b>	radium	226	89-103	actinoids					104	<b>Rf</b>	rutherfordium	261	105	<b>Dubnium</b>	262	106	<b>Sg</b>	seaborgium	263	107	<b>Bh</b>	bohrium	264	108	<b>Hs</b>	hassium	265	109	<b>Mt</b>	meitnerium	266	110	<b>Ds</b>	darmstadtium	267	111	<b>Rg</b>	roentgenium	268	112	<b>Cn</b>	copernicium	269	113	<b>Nh</b>	nihonium	270	114	<b>Fl</b>	flerovium	271	115	<b>Mc</b>	moscovium	272	116	<b>Lv</b>	livermorium	273	117	<b>Ts</b>	tennessine	274	118	<b>Og</b>	oganeson	275	

## 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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