

Modified Enlarged 24pt
OXFORD CAMBRIDGE AND RSA EXAMINATIONS

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

J260 04/08

Data Sheet (Insert)

June 2019

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).**



The Periodic Table of the Elements

(1) (2) (3) (4) (5) (6) (7) (0)

1		Key atomic number Symbol name relative atomic mass										18																							
1	H hydrogen 1.0											2	He helium 4.0																						
2		3	Li lithium 6.9	4	Be beryllium 9.0											9	F fluorine 19.0	10	Ne neon 20.2																
11	Na sodium 23.0	12	Mg magnesium 24.3											17	Cl chlorine 35.5	18	Ar argon 39.9																		
19	K potassium 39.1	20	Ca calcium 40.1	21	Sc scandium 45.0	22	Ti titanium 47.9	23	V vanadium 50.9	24	Cr chromium 52.0	25	Mn manganese 54.9	26	Fe iron 55.8	27	Co cobalt 58.9	28	Ni nickel 58.7	29	Cu copper 63.5	30	Zn zinc 65.4	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
37	Rb rubidium 85.5	38	Sr strontium 87.6	39	Y yttrium 88.9	40	Zr zirconium 91.2	41	Nb niobium 92.9	42	Mo molybdenum 95.9	43	Tc technetium	44	Ru ruthenium 101.1	45	Rh rhodium 102.9	46	Pd palladium 106.4	47	Ag silver 107.9	48	Cd cadmium 112.4	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
55	Cs caesium 132.9	56	Ba barium 137.3	57–71 lanthanoids		72	Hf hafnium 178.5	73	Ta tantalum 180.9	74	W tungsten 183.8	75	Re rhenium 186.2	76	Os osmium 190.2	77	Ir iridium 192.2	78	Pt platinum 195.1	79	Au gold 197.0	80	Hg mercury 200.6	81	Tl thallium 204.4	82	Pb lead 207.2	83	Bi bismuth 209.0	84	Po polonium	85	At astatine	86	Rn radon
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				

ELEMENTS LISTED IN NUMERICAL ORDER:

1	Hydrogen	H	29	Copper	Cu	72	Hafnium	Hf
2	Helium	He	30	Zinc	Zn	73	Tantalum	Ta
3	Lithium	Li	31	Gallium	Ga	74	Tungsten	W
4	Beryllium	Be	32	Germanium	Ge	75	Rhenium	Re
5	Boron	B	33	Arsenic	As	76	Osmium	Os
6	Carbon	C	34	Selenium	Se	77	Iridium	Ir
7	Nitrogen	N	35	Bromine	Br	78	Platinum	Pt
8	Oxygen	O	36	Krypton	Kr	79	Gold	Au
9	Fluorine	F	37	Rubidium	Rb	80	Mercury	Hg
10	Neon	Ne	38	Strontium	Sr	81	Thallium	Tl
11	Sodium	Na	39	Yttrium	Y	82	Lead	Pb
12	Magnesium	Mg	40	Zirconium	Zr	83	Bismuth	Bi
13	Aluminum	Al	41	Niobium	Nb	84	Polonium	Po
14	Silicon	Si	42	Molybdenum	Mo	85	Astatine	At
15	Phosphorus	P	43	Technetium	Tc	86	Radon	Rn
16	Sulfur	S	44	Ruthenium	Ru	87	Francium	Fr
17	Chlorine	Cl	45	Rhodium	Rh	88	Radium	Ra
18	Argon	Ar	46	Palladium	Pd	104	Rutherfordium	Rf
19	Potassium	K	47	Silver	Ag	105	Dubnium	Db
20	Calcium	Ca	48	Cadmium	Cd	106	Seaborgium	Sg
21	Scandium	Sc	49	Indium	In	107	Bohrium	Bh
22	Titanium	Ti	50	Tin	Sn	108	Hassium	Hs
23	Vanadium	V	51	Antimony	Sb	109	Meitnerium	Mt
24	Chromium	Cr	52	Tellurium	Te	110	Darmstadtium	Ds
25	Manganese	Mn	53	Iodine	I	111	Roentgenium	Rg
26	Iron	Fe	54	Xenon	Xe	112	Copernicium	Cn
27	Cobalt	Co	55	Caesium	Cs	114	Flerovium	Fl
28	Nickel	Ni	56	Barium	Ba	116	Livermorium	Lv

Equations in physics

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

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

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

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

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

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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