

**Modified Enlarged 24 pt**

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**

**Tuesday 11 January 2022 – Afternoon**

**Level 3 Cambridge Technical in Applied Science**

**05847/05848/05849/05874/05879**

**Unit 1: Science fundamentals**

## **Periodic Table**

**You must have:**

**the Insert for Question 1(c) (FIG. 1.2)**

**the Loose Sheet for Question 8 (FIG. 8.2)**

**the Data Sheet**

**a ruler (cm/mm)**

**You can use:**

**a scientific or graphical calculator**

**an HB pencil**

# 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									5	6	7	8	9	10																		
11	Na sodium 23.0	12	Mg magnesium 24.3									13	14	15	16	17	18																		
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				

57	La lanthanum 138.9	58	Ce cerium 140.1	59	Pr praseodymium 140.9	60	Nd neodymium 144.2	61	Pm promethium 144.9	62	Sm samarium 150.4	63	Eu europium 152.0	64	Gd gadolinium 157.2	65	Tb terbium 158.9	66	Dy dysprosium 162.5	67	Ho holmium 164.9	68	Er erbium 167.3	69	Tm thulium 168.9	70	Yb ytterbium 173.0	71	Lu lutetium 175.0
89	Ac actinium	90	Th thorium 232.0	91	Pa protactinium	92	U uranium 238.1	93	Np neptunium	94	Pu plutonium	95	Am americium	96	Cm curium	97	Bk berkelium	98	Cf californium	99	Es einsteinium	100	Fm fermium	101	Md mendelevium	102	No nobelium	103	Lr lawrencium

## ELEMENTS LISTED IN NUMERICAL ORDER:

1	Hydrogen	H	35	Bromine	Br
2	Helium	He	36	Krypton	Kr
3	Lithium	Li	37	Rubidium	Rb
4	Beryllium	Be	38	Strontium	Sr
5	Boron	B	39	Yttrium	Y
6	Carbon	C	40	Zirconium	Zr
7	Nitrogen	N	41	Niobium	Nb
8	Oxygen	O	42	Molybdenum	Mo
9	Fluorine	F	43	Technetium	Tc
10	Neon	Ne	44	Ruthenium	Ru
11	Sodium	Na	45	Rhodium	Rh
12	Magnesium	Mg	46	Palladium	Pd
13	Aluminium	Al	47	Silver	Ag
14	Silicon	Si	48	Cadmium	Cd
15	Phosphorus	P	49	Indium	In
16	Sulfur	S	50	Tin	Sn
17	Chlorine	Cl	51	Antimony	Sb
18	Argon	Ar	52	Tellurium	Te
19	Potassium	K	53	Iodine	I
20	Calcium	Ca	54	Xenon	Xe
21	Scandium	Sc	55	Caesium	Cs
22	Titanium	Ti	56	Barium	Ba
23	Vanadium	V	57	Lanthanum	La
24	Chromium	Cr	58	Cerium	Ce
25	Manganese	Mn	59	Praseodymium	Pr
26	Iron	Fe	60	Neodymium	Nd
27	Cobalt	Co	61	Promethium	Pm
28	Nickel	Ni	62	Samarium	Sm
29	Copper	Cu	63	Europium	Eu
30	Zinc	Zn	64	Gadolinium	Gd
31	Gallium	Ga	65	Terbium	Tb
32	Germanium	Ge	66	Dysprosium	Dy
33	Arsenic	As	67	Holmium	Ho
34	Selenium	Se	68	Erbium	Er

69	Thulium	Tm
70	Ytterbium	Yb
71	Lutetium	Lu
72	Hafnium	Hf
73	Tantalum	Ta
74	Tungsten	W
75	Rhenium	Re
76	Osmium	Os
77	Iridium	Ir
78	Platinum	Pt
79	Gold	Au
80	Mercury	Hg
81	Thallium	Tl
82	Lead	Pb
83	Bismuth	Bi
84	Polonium	Po
85	Astatine	At
86	Radon	Rn
87	Francium	Fr
88	Radium	Ra
89	Actinium	Ac
90	Thorium	Th
91	Protactinium	Pa
92	Uranium	U
93	Neptunium	Np
94	Plutonium	Pu
95	Americium	Am
96	Curium	Cm
97	Berkelium	Bk
98	Californium	Cf
99	Einsteinium	Es
100	Fermium	Fm
101	Mendelevium	Md
102	Nobelium	No
103	Lawrencium	Lr
104	Rutherfordium	Rf

105	Dubnium	Db
106	Seaborgium	Sg
107	Bohrium	Bh
108	Hassium	Hs
109	Meitnerium	Mt
110	Darmstadtium	Ds
111	Roentgenium	Rg
112	Copernicium	Cn
114	Flerovium	Fl
116	Livermorium	Lv



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