

GCSE Chemistry A (Gateway Science)
J248/03 C1-C3 and C7 Higher (Higher Tier)

Question Set 18

1 Look at the diagram.

It shows part of Mendeleev's Periodic Table which was developed in 1871.

Mendeleev arranged the elements in order of relative atomic mass.

Group	1	2	3	4	5	6	7	
Periods								
1	H 1.008							
2	Li 6.939	Be 9.012	B 10.81	C 12.011	N 14.007	O 15.999	F 18.998	
3	Na 22.99	Mg 24.31	Al 29.98	Si 28.09	P 30.974	S 32.06	Cl 35.453	
4	K 39.102	Ca 40.08			As 74.92	Se 78.96	Br 79.909	
5	Rb 85.47	Sr 87.62	In 114.82	Sn 118.69	Sb 121.75	Te 127.60	I 126.90	
6	Cs 132.90	Ba 137.84	Tl 204.37	Pb 207.19	Bi 208.98			

Describe the differences between Mendeleev's Periodic Table and the modern-day version.

[3]

Total Marks for Question Set 18: 3

The Periodic Table of the Elements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(0)
1 1 H hydrogen 1.0	2 4 Be beryllium 9.0	13 5 B boron 10.8	14 6 C carbon 12.0	15 7 N nitrogen 14.0	16 8 O oxygen 16.0	17 9 F fluorine 19.0	18 2 He helium 4.0
3 3 Li lithium 6.9	4 4 Be beryllium 9.0	13 13 Al aluminium 27.0	14 14 Si silicon 28.1	15 15 P phosphorus 31.0	16 16 S sulfur 32.1	17 17 Cl chlorine 35.5	18 18 Ar argon 39.9
11 11 Na sodium 23.0	12 12 Mg magnesium 24.3	31 31 Ga gallium 69.7	32 32 Ge germanium 72.6	33 33 As arsenic 74.9	34 34 Se selenium 79.0	35 35 Br bromine 79.9	36 36 Kr krypton 83.8
19 19 K potassium 39.1	20 20 Ca calcium 40.1	49 49 In indium 114.8	50 50 Sn tin 118.7	51 51 Sb antimony 121.8	52 52 Te tellurium 127.6	53 53 I iodine 126.9	54 54 Xe xenon 131.3
37 37 Rb rubidium 85.5	38 38 Sr strontium 87.6	81 81 Tl thallium 204.4	82 82 Pb lead 207.2	83 83 Bi bismuth 209.0	84 84 Po polonium	85 85 At astatine	86 86 Rn radon
55 55 Cs caesium 132.9	56 56 Ba barium 137.3	80 80 Hg mercury 200.6	80 80 Hg mercury 200.6	111 111 Rg roentgenium	112 112 Cn copernicium		
87 87 Fr francium	88 88 Ra radium	109 109 Mt meitnerium	108 108 Hs hassium	110 110 Ds darmstadtium	112 112 Cn copernicium		
		27 27 Co cobalt 58.9	26 26 Fe iron 55.8	28 28 Ni nickel 58.7	29 29 Cu copper 63.5		
		45 45 Rh rhodium 102.9	44 44 Ru ruthenium 101.1	46 46 Pd palladium 106.4	47 47 Ag silver 107.9		
		75 75 Re rhenium 186.2	76 76 Os osmium 190.2	78 78 Pt platinum 195.1	79 79 Au gold 197.0		
		107 107 Bh bohrium	108 108 Hs hassium	110 110 Ds darmstadtium	111 111 Rg roentgenium		
		25 25 Mn manganese 54.9	24 24 Cr chromium 52.0	27 27 Co cobalt 58.9	28 28 Ni nickel 58.7		
		43 43 Tc technetium	42 42 Mo molybdenum 95.9	45 45 Rh rhodium 102.9	46 46 Pd palladium 106.4		
		73 73 Ta tantalum 180.9	74 74 W tungsten 183.8	77 77 Ir iridium 192.2	78 78 Pt platinum 195.1		
		105 105 Db dubnium	106 106 Sg seaborgium	109 109 Mt meitnerium	110 110 Ds darmstadtium		
		23 23 V vanadium 50.9	23 23 V vanadium 50.9	27 27 Co cobalt 58.9	28 28 Ni nickel 58.7		
		41 41 Nb niobium 92.9	41 41 Nb niobium 92.9	45 45 Rh rhodium 102.9	46 46 Pd palladium 106.4		
		72 72 Hf hafnium 178.5	73 73 Ta tantalum 180.9	77 77 Ir iridium 192.2	78 78 Pt platinum 195.1		
		104 104 Rf rutherfordium	105 105 Db dubnium	109 109 Mt meitnerium	110 110 Ds darmstadtium		
		21 21 Sc scandium 45.0	21 21 Sc scandium 45.0	27 27 Co cobalt 58.9	28 28 Ni nickel 58.7		
		39 39 Y yttrium 88.9	39 39 Y yttrium 88.9	45 45 Rh rhodium 102.9	46 46 Pd palladium 106.4		
		57-71 lanthanoids	57-71 lanthanoids	77 77 Ir iridium 192.2	78 78 Pt platinum 195.1		
		89-103 actinoids	89-103 actinoids	109 109 Mt meitnerium	110 110 Ds darmstadtium		

Key
atomic number
Symbol
name
relative atomic mass

OCR

Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge