

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
GCSE (9–1)  
J248 01/02/03/04  
CHEMISTRY A  
(GATEWAY SCIENCE)  
DATA SHEET (INSERT)  
JUNE 2018  
MODIFIED ENLARGED 24pt**

## **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)  
Chemistry A (J248 01/02/03/04).**



# The Periodic Table of the Elements

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

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>1</b> <b>H</b> hydrogen 1.0	<b>2</b> <b>He</b> helium 4.0											<b>5</b> <b>B</b> boron 10.8	<b>6</b> <b>C</b> carbon 12.0	<b>7</b> <b>N</b> nitrogen 14.0	<b>8</b> <b>O</b> oxygen 16.0	<b>9</b> <b>F</b> fluorine 19.0	<b>10</b> <b>Ne</b> neon 20.2
<b>3</b> <b>Li</b> lithium 6.9	<b>4</b> <b>Be</b> beryllium 9.0	<b>11</b> <b>Na</b> sodium 23.0	<b>12</b> <b>Mg</b> magnesium 24.3	<b>13</b> <b>Al</b> aluminium 27.0	<b>14</b> <b>Si</b> silicon 28.1	<b>15</b> <b>P</b> phosphorus 31.0	<b>16</b> <b>S</b> sulfur 32.1	<b>17</b> <b>Cl</b> chlorine 35.5	<b>18</b> <b>Ar</b> argon 39.9			<b>31</b> <b>Ga</b> gallium 69.7	<b>32</b> <b>Ge</b> germanium 72.6	<b>33</b> <b>As</b> arsenic 74.9	<b>34</b> <b>Se</b> selenium 79.0	<b>35</b> <b>Br</b> bromine 79.9	<b>36</b> <b>Kr</b> krypton 83.8
<b>19</b> <b>K</b> potassium 39.1	<b>20</b> <b>Ca</b> calcium 40.1	<b>21</b> <b>Sc</b> scandium 45.0	<b>22</b> <b>Ti</b> titanium 47.9	<b>23</b> <b>V</b> vanadium 50.9	<b>24</b> <b>Cr</b> chromium 52.0	<b>25</b> <b>Mn</b> manganese 54.9	<b>26</b> <b>Fe</b> iron 55.8	<b>27</b> <b>Co</b> cobalt 58.9	<b>28</b> <b>Ni</b> nickel 58.7	<b>29</b> <b>Cu</b> copper 63.5	<b>30</b> <b>Zn</b> zinc 65.4	<b>49</b> <b>In</b> indium 114.8	<b>50</b> <b>Sn</b> tin 118.7	<b>51</b> <b>Sb</b> antimony 121.8	<b>52</b> <b>Te</b> tellurium 127.6	<b>53</b> <b>I</b> iodine 126.9	<b>54</b> <b>Xe</b> xenon 131.3
<b>37</b> <b>Rb</b> rubidium 85.5	<b>38</b> <b>Sr</b> strontium 87.6	<b>39</b> <b>Y</b> yttrium 88.9	<b>40</b> <b>Zr</b> zirconium 91.2	<b>41</b> <b>Nb</b> niobium 92.9	<b>42</b> <b>Mo</b> molybdenum 95.9	<b>43</b> <b>Tc</b> technetium	<b>44</b> <b>Ru</b> ruthenium 101.1	<b>45</b> <b>Rh</b> rhodium 102.9	<b>46</b> <b>Pd</b> palladium 106.4	<b>47</b> <b>Ag</b> silver 107.9	<b>48</b> <b>Cd</b> cadmium 112.4	<b>81</b> <b>Tl</b> thallium 204.4	<b>82</b> <b>Pb</b> lead 207.2	<b>83</b> <b>Bi</b> bismuth 209.0	<b>84</b> <b>Po</b> polonium	<b>85</b> <b>At</b> astatine	<b>86</b> <b>Rn</b> radon
<b>55</b> <b>Cs</b> caesium 132.9	<b>56</b> <b>Ba</b> barium 137.3	<b>57-71</b> lanthanoids	<b>72</b> <b>Hf</b> hafnium 178.5	<b>73</b> <b>Ta</b> tantalum 180.9	<b>74</b> <b>W</b> tungsten 183.8	<b>75</b> <b>Re</b> rhenium 186.2	<b>76</b> <b>Os</b> osmium 190.2	<b>77</b> <b>Ir</b> iridium 192.2	<b>78</b> <b>Pt</b> platinum 195.1	<b>79</b> <b>Au</b> gold 197.0	<b>80</b> <b>Hg</b> mercury 200.6	<b>113</b> <b>Bh</b> bohrium	<b>114</b> <b>F1</b> flerovium	<b>115</b> <b>Mt</b> meitnerium	<b>116</b> <b>Lv</b> livermorium	<b>117</b> <b>Ts</b> tennessine	<b>118</b> <b>Og</b> oganeson
<b>87</b> <b>Fr</b> francium	<b>88</b> <b>Ra</b> radium	<b>89-103</b> actinoids	<b>104</b> <b>Rf</b> rutherfordium	<b>105</b> <b>Db</b> dubnium	<b>106</b> <b>Sg</b> seaborgium	<b>107</b> <b>Bh</b> bohrium	<b>108</b> <b>Hs</b> hassium	<b>109</b> <b>Mt</b> meitnerium	<b>110</b> <b>Ds</b> darmstadtium	<b>111</b> <b>Rg</b> roentgenium	<b>112</b> <b>Cn</b> copernicium						

# ELEMENTS LISTED IN NUMERICAL ORDER:

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



### **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](http://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 Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE. 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.**