

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

Question Set 20

1 Look at the data about some substances.

Substance	Melting point (°C)	Boiling point (°C)	Does it conduct electricity?	Density (g/cm ³)
A	0	100	no	1.0
B	>3000	>4000	no	3.5
C	801	1413	Solid does not conduct but conducts when melted or when dissolved in water	2.2

Explain the type of **bonding** present in each substance **A**, **B** and **C**.

Relate the type of bonding to the **properties** of each substance.

[6]

Total Marks for Question Set 20: 6

The Periodic Table of the Elements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(0)
1 H hydrogen 1.0	2 He helium 4.0						
3 Li lithium 6.9	4 Be beryllium 9.0	5 B boron 10.8	6 C carbon 12.0	7 N nitrogen 14.0	8 O oxygen 16.0	9 F fluorine 19.0	10 Ne neon 20.2
11 Na sodium 23.0	12 Mg magnesium 24.3	13 Al aluminium 27.0	14 Si silicon 28.1	15 P phosphorus 31.0	16 S sulfur 32.1	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
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
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
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	
			113 Nh nihonium	114 Fl flerovium	115 Mc moscovium	116 Lv livermorium	
			117 Ts tennessine	118 Og oganesson			

Key
 atomic number
Symbol
 name
 relative atomic mass

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