

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

**Question Set 11**

1 Magnesium is an element. It is solid at room temperature.

(a) (i) **Solid** magnesium cannot be compressed.

Why?

[1]

(ii) **Solid** magnesium **cannot** flow, but **liquid** magnesium **can** flow.

Explain why.

[3]

(iii) Magnesium **gas** completely fills any container it is put in.

Explain why.

[2]

(b) Magnesium reacts with water. Magnesium hydroxide,  $\text{Mg}(\text{OH})_2$ , and hydrogen,  $\text{H}_2$ , are made.

Write a balanced symbol equation for this reaction.

[2]

(c) Magnesium nitrate has the formula  $\text{Mg}(\text{NO}_3)_2$ .

Calculate the relative formula mass of magnesium nitrate.

Answer = ..... [1]

**Total Marks for Question Set 11: 9**

# The Periodic Table of the Elements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
		<div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Key</b>                      atomic number  <b>Symbol</b>                      name                      relative atomic mass                 </div>																
1	2																	
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
1	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
H hydrogen 1.0	Li lithium 6.9	Be beryllium 9.0	B boron 10.8	C carbon 12.0	N nitrogen 14.0	O oxygen 16.0	F fluorine 19.0	Ne neon 20.2	Na sodium 23.0	Mg magnesium 24.3	Al aluminium 27.0	Si silicon 28.1	P phosphorus 31.0	S sulfur 32.1	Cl chlorine 35.5	Ar argon 39.9	K potassium 39.1	Ca calcium 40.1
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
Rb rubidium 85.5	Sr strontium 87.6	Y yttrium 88.9	Zr zirconium 91.2	Nb niobium 92.9	Mo molybdenum 95.9	Tc technetium	Ru ruthenium 101.1	Rh rhodium 102.9	Pd palladium 106.4	Ag silver 107.9	Cd cadmium 112.4	In indium 114.8	Sn tin 118.7	Sb antimony 121.8	Te tellurium 127.6	I iodine 126.9	Xe xenon 131.3	Cs caesium 132.9
87	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119
Fr francium	Ra radium	actinoids	Rf rutherfordium	Db dubnium	Sg seaborgium	Bh bohrium	Hs hassium	Mt meitnerium	Ds darmstadtium	Rg roentgenium	Cn copernicium	Fl flerovium	Lv livermorium	Uu ununoctium	Ug unquadium	Uq unquadium	Uub unubium	Uut ununtrium

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