

- M1.(a) (i) central block 1
- (ii) conducts electricity 1
- (b) any **two** from:
- visual pollution
 - noise pollution
 - dust pollution
 - habitat destruction.
- 2
- (c) (i) to concentrate the ore / copper carbonate
or
to remove / separate the rock 1
- (ii) 12 (tonnes)
If answer is incorrect allow one mark for $(127 + 132) - 247$ or $259 - 247$ 2
- (iii) any **one** from:
- so no reactant is wasted / left unreacted
 - so they know how much product they will make
 - need to record / compensate for the carbon dioxide produced
- allow so they can work out their carbon footprint.* 1
- [8]**

- M2.** (a) (i) **A** 1
- (ii) **F** 1
- (iii) **E** 1
- (iv) **C** 1
- (v) **A or B** 1
- (b) (i) Rb K Na 1
allow rubidium, potassium, sodium
*do **not** accept RB or NA*
- (ii) decrease
or
become lower / smaller / less
allow from 180° C to 27° C 1
- (c) They are harder than Group 1 metals. 1

They have higher melting points than Group 1 metals.

1

They often form coloured compounds but Group 1 compounds are usually white.

1

[10]

- M3.** (a) (i) elements 1
- (ii) atomic weight 1
- (iii) atomic (proton) number 1
- (b) (i) transition metals 1
- (ii) has a higher melting point is harder 2

[6]

- M4.** (a) tungsten 1
- has the high(est) melting point
*accept that metals other than tungsten
 are likely to melt* 1
- (b) argon 1
- is an unreactive gas
*accept that gases other than argon are reactive
 accept that argon is a noble gas or in Group 0* 1

[4]

M5.	(a) (good)conductor of electricity <i>conductor of electricity and heat (+/-) = 0</i> <i>accept can be drawn into wires or ductile</i> <i>ignore flexible</i>	1	
	(b) strong <i>accept tough or hard or high tensile strength</i>	1	
	(c) reference to <u>colour</u>	1	[3]
M6.	conducts heat <i>list principle applies after 4 ticks</i>	1	
	forms coloured compounds	1	
	high melting point	1	
	strong	1	[4]

- M7.** (i) zinc
accept Zn 1
- iron only
accept Fe 1
- copper
accept Cu
do not credit iron 1
- (ii) iron 1
- (iii) copper **or** iron or manganese
accept Cu or Fe or Mn 1

[5]