



9F Patterns of reactivity...mark scheme

Assessment for learning...year 9 (level 3-6)

Question 1:

- (a) (i) zinc sulphate + copper 1
*do **not** accept 'sulphide' or 'sulphur'*
- (ii) brown 1
accept 'brownish' or 'brownny grey'
- (b) (i) magnesium + copper sulphate → magnesium sulphate + copper 1
all must be correct
- (ii) silver grey 1
answers may be in either order
accept 'grey' or 'silver'
*do **not** accept 'white' or 'light grey'*
- (iii) brown 1
accept 'copper'
- (c) (i) no reaction **or** nothing **or** none 1
- (ii) **answers should refer to both magnesium and iron** 1
any **one** from
- magnesium is more reactive than iron
accept 'magnesium is above iron'
 - iron is less reactive than magnesium
accept 'iron is below magnesium'

Question 2:

- (a) ammonium chloride and sodium sulphite 1
answers may be in either order
both are required for the mark
accept 'sulphate' for sulphite
accept '4 and 10'
- (b) (i) bubbles 1
accept 'hydrogen' or 'gas' or 'fizzing'
do not accept 'a reaction'
- (ii) carbon dioxide or CO₂ 1
- (c) potassium carbon oxygen 1
answers may be in any order
all three are required for the mark

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Question 3:

- (a) magnesium Mg *answers must be in the correct order* 1
zinc or Zn *all four are required for the mark*
iron Fe
copper Cu
- (b) **one mark is for the left hand box; the other mark is for the two right hand boxes** 2
- | | | |
|-------------|------------|--|
| * dark grey | * brown | <i>accept 'copper coloured' or 'black' for brown</i> |
| | colourless | <i>accept 'almost colourless'</i> |
- (c) Mg + CuSO₄ or Mg and CuSO₄ 1
Accept 'the right hand' or 'the fourth one'

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Question 4:

- (a) (i) A and D 2

(ii) C 1
answers may be in either order

- (b) any **two** from 2
- paint them *accept 'varnish it'*
 - grease them *accept 'WD40'*
 - oil them *accept 'plate them' or 'chrome them'*
 - galvanise them *or 'coat them with zinc or tin'*
 - coat them with plastic *accept 'cover them in plastic'*
do not accept 'keep them dry' or 'keep air away'
do not accept 'make them from stainless steel'
or any idea of replacement

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Question 5:

(a) circles around the four crosses which run diagonally from top left to bottom right 1
all four crosses must be circled for the mark

(b) magnesium **or** Mg 1
zinc **or** Zn
iron **or** Fe
copper **or** Cu
answers must be in the correct order
all four elements are required for the mark

(c) (i) any **one** from 1
• potassium
• sodium
• lithium
• calcium
accept any group I or group II metal except beryllium and magnesium
do not accept 'aluminium'

(ii) any **one** from 1
• potassium nitrate *accept 'potassium'*
• sodium nitrate *accept 'sodium'*
• lithium nitrate *accept 'lithium'*
• calcium nitrate *accept 'calcium'*
accept 'aluminium nitrate' or 'aluminium'

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