AQA GCSE Combined Science - Trilogy | 8464

SPECIFICATION POINT 5.1.1.1

# Atoms, elements and compounds

## Mark schemes and examiner comments

| | |
|---|---|
| Tier | **Foundation** |
| Question groups | **8** |
| Available paper years | **2018–2025** |

## Using this booklet

1. Booklet answer numbers match the question booklet.
2. Use the original question number within marking tables.
3. Examiner comments are included where available.

**Name:** _____ **Date:** _____

Where a precise marking extract is unavailable, the full source document is included in an appendix. Any missing mark scheme is explicitly identified.

### 5.1.1.1 Atoms, elements and compounds

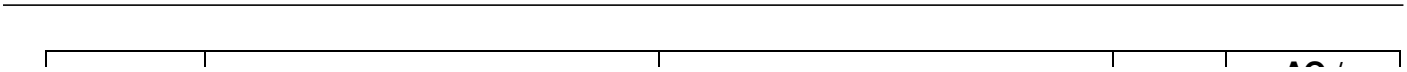
**Answer 01 · Mark scheme** June 2018 | 8464/C/2F | Original Q1

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **01.1** | 16 | | 1 | AO2<br>5.1.1.5 |
| **01.2** | 8 $e^-$ in 2nd shell<br>6 $e^-$ in 3rd shell | allow ●, x ,$e^-$ or any combination | 1 | AO2<br>5.1.1.7 |
| **01.3** | oxygen → sulfur dioxide | allow = in place of →<br>do **not** accept sulfur oxide<br>ignore symbols | 1 | AO2<br>5.1.1.1<br>5.9.3.1 |
| **01.4** | acid rain | | 1 | AO1<br>5.9.3.2 |
| **01.5** | yes / no<br><br>any **two** from:<br>• increases<br>• constant<br>• decreases<br><br>correct date range for any one of the above<br>• (increases) 1984–1987<br>• (constant) 1987–1990<br>• (decreases) 1990–2014 | <br><br>allow goes up<br>allow similar<br>allow goes down<br>allow levels off (at the end) | <br><br>2<br><br>1 | <br><br>AO3<br>5.9.3.1<br><br>AO2<br>5.9.3.1 |
| **01.6** | <br><br>(69 + 6 =) 75<br><br>100 – 75 = 25(%) | an answer of 25(%) scores **2** marks<br><br><br>allow a final percentage calculated from an incorrect value in the first step | <br><br>1<br><br>1 | AO2<br>5.9.3.1 |
| **Total** | | | **9** | |

### 5.1.1.1 Atoms, elements and compounds

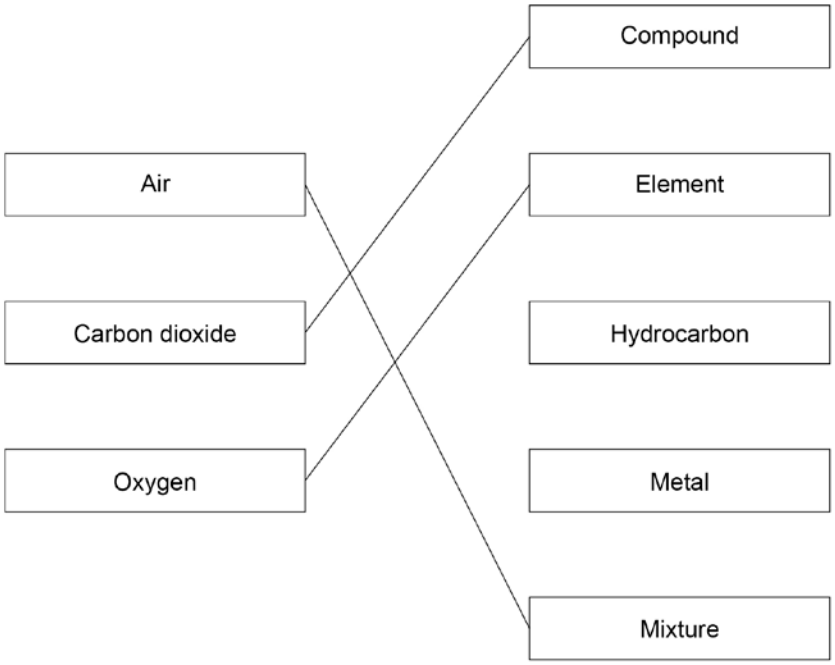
**Answer 01 · Mark scheme**

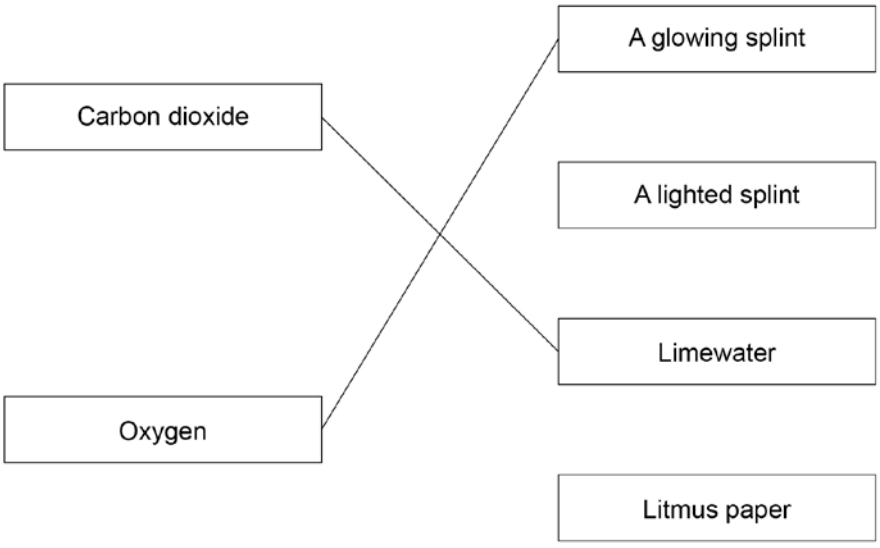
June 2018 | 8464/C/2F | Original Q1



### 5.1.1.1 Atoms, elements and compounds

**Answer 02 · Mark scheme** June 2019 | 8464/C/2F | Original Q1

| | | | |
|---|---|---|---|
| **01.1** | <br>If more than one line is drawn from any one substance and not crossed out, no mark is given for that substance.<br>The other marks can be awarded. | 1<br>1<br>1 | AO2.1<br>5.1.1.2<br>5.8.1.1<br>5.1.1.1 |

| | | | |
|---|---|---|---|
| **01.2** | <br>If more than one line is drawn from any one gas and not crossed out, no mark is awarded for that gas.<br>The other mark can be awarded. | 1<br>1 | AO1.1<br>5.8.2.2<br>5.8.2.3 |

| | | | | |
|---|---|---|---|---|
| **01.3** | dissolved in oceans<br><br>photosynthesis | | 1<br><br>1 | AO1<br>5.9.1.2<br>5.9.1.4 |

### 5.1.1.1 Atoms, elements and compounds

**Answer 02 · Mark scheme**

June 2019 | 8464/C/2F | Original Q1

| | | | | |
|---|---|---|---|---|
| **01.4** | ⇌ | ignore any other words, formulae or symbols | 1 | AO1.1<br>5.6.2.1 |
| **01.5** | endothermic (reaction) | spelling must be correct<br>do **not** accept exothermic | 1 | AO1.1<br>5.6.2.2 |
| **01.6** | rate (of reaction) | allow speed or velocity<br>do **not** accept any other response | 1 | AO1<br>5.6.2.3 |
| **Total** | | | **10** | |

### 5.1.1.1 Atoms, elements and compounds

**Answer 02 · Mark scheme**

June 2019 | 8464/C/2F | Original Q1

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|

### 5.1.1.1 Atoms, elements and compounds

**Answer 03 · Mark scheme** November 2020 | 8464/C/1F | Original Q4

| | | | | |
|---|---|---|---|---|
| **04.1** | $\frac{8}{10} \times 100$ **or** $0.8 \times 100$<br><br>= 80 (%) | <br><br>if no other mark awarded allow **1** mark for 20 (%) | 1<br><br>1 | AO2<br>5.1.2.3 |
| **04.2** | any **two** from:<br>• conducts electricity<br>• conducts thermal energy<br>• ductile<br>• high melting point<br>• malleable<br>• shiny<br>• strong | <br><br>allow conducts heat<br><br>allow high boiling point<br>allow can be bent / shaped<br><br><br>allow dense<br>allow sonorous<br><br>ignore chemical properties | 2 | AO1<br>5.1.2.3 |
| **04.3** | 2 Na + $Cl_2$ → 2 NaCl | allow multiples | 1 | AO2<br>5.1.2.5<br>5.1.2.6<br>5.3.1.1 |
| **04.4** | electrostatic attractions | | 1 | AO3<br>5.2.1.3<br>5.2.2.3 |
| **04.5** | (heat sodium chloride until) molten / liquid<br><br>dissolve in water | <br><br>allow form aqueous solution<br>allow add water | 1<br><br>1 | AO1<br>5.2.2.3 |
| **Total** | | | **8** | |

### 5.1.1.1 Atoms, elements and compounds

**Answer 03 · Mark scheme**

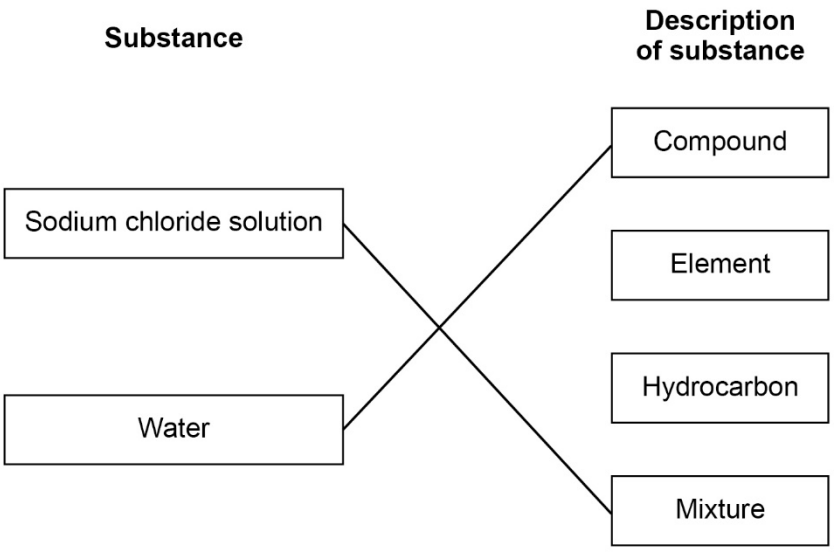
November 2020 | 8464/C/1F | Original Q4

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|

5.1.1.1 Atoms, elements and compounds

Answer 04 · Mark scheme

November 2021 | 8464/C/2F | Original Q1

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 01.1 | (the symbol) ⇌ | allow description of reversible sign | 1 | AO1 5.6.2.1 |
| 01.2 | white<br><br>blue | must be in this order | 1<br><br>1 | AO1 5.6.2.2 |
| 01.3 | to prevent reaction with water vapour (in the air) | allow to prevent reaction with moisture<br>allow to keep water out | 1 | AO3 5.6.2.2 |
| 01.4 | <br>do **not** accept more than one line from a box on the left | | 1<br><br>1 | AO2 5.1.1.2 |
| 01.5 | evaporation<br>**or**<br>crystallisation | | 1 | AO1 RPA 13 |
| 01.6 | (filtering) to remove solids<br><br>(sterilising) to kill bacteria | <br><br>allow to kill microbes | 1<br><br>1 | AO1 5.10.1.2 |

### 5.1.1.1 Atoms, elements and compounds

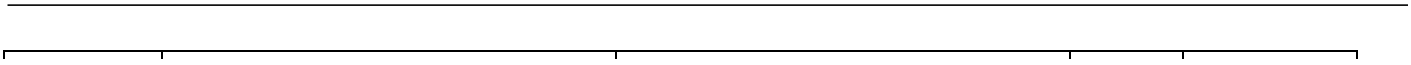


| | | | | |
|---|---|---|---|---|
| **01.7** | ground water | | 1 | AO1<br>5.10.1.3 |
| **01.8** | screening and removal of grit | | 1 | AO1<br>5.10.1.3 |
| **Total** | | | **11** | |

### 5.1.1.1 Atoms, elements and compounds

**Answer 04 · Mark scheme**

November 2021 | 8464/C/2F | Original Q1



5.1.1.1 Atoms, elements and compounds

Answer 05 · Mark scheme

June 2022 | 8464/C/1F | Original Q4

## Question 4

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.1** | **2** Mg + $O_2$ → 2 MgO | allow multiples | 1 | AO2<br>5.1.2.5<br>5.4.1.1 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.2** | any **one** from:<br>• wear safety glasses / goggles<br>• do not look directly at burning magnesium<br>• wear heat proof glove | allow look through blue glass<br><br>allow use tongs<br>allow tie hair back | 1 | AO3<br>5.4.1.1<br>5.4.1.2<br>5.5.1.1 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.3** | ($M_r$ = ) 24 + (2 × 19)<br><br>= 62 | | 1<br><br>1 | AO2<br>5.1.2.5<br>5.3.1.2 |

5.1.1.1 Atoms, elements and compounds

Answer 05 · Mark scheme

June 2022 | 8464/C/1F | Original Q4

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 04.4 | any **one** from:<br>• argon has a full outer shell<br>• argon has 8 electrons in the outer shell<br>• argon has a stable arrangement of electrons. | allow energy level for shell<br><br>allow does not need to lose and / or gain electrons | 1 | AO2 |
| | (so) argon is unreactive | ignore argon is a noble gas | 1 | AO1<br>5.1.2.4 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 04.5 | **Metal** — **Method used to extract that metal**<br>Metal **D** → Extracted by electrolysis of a molten ionic compound.<br>Metal **D** → Extracted from its oxide by reduction with carbon.<br>Metal **E** → Extracted from its oxide by reduction with hydrogen.<br>Metal **E** → Removed from the Earth as the metal itself.<br>do **not** accept more than one line from a box on the left | | 1<br>1 | AO3<br>5.4.1.2<br>5.4.1.3<br>5.4.3.1<br>5.4.3.2<br>5.4.3.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 04.6 | (because) ions<br><br>(which are) free to move when molten<br><br>(but are) fixed in solid | <br><br><br><br><br>allow reference to charged particles for MP2 and MP3 | 1<br><br>1<br><br>1 | AO1 5.2.2.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 04.7 | (sodium contains) delocalised electrons<br><br>(which) carry (electrical) charge (through the metal / sodium) | allow free electrons<br><br>ignore throughout for through<br><br>ignore current / electricity | 1<br><br>1 | AO1 5.2.2.8 |

| Total Question 4 | | 13 |
|---|---|---|

5.1.1.1 Atoms, elements and compounds

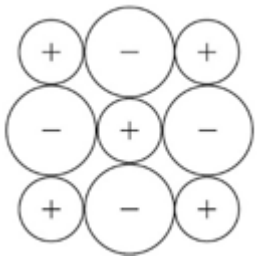
Answer 06 · Mark scheme

June 2023 | 8464/C/1F | Original Q3

## Question 3

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 03.1 | noble gases | | 1 | AO1<br>5.2.1.2 |

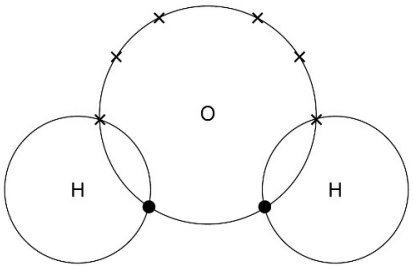
| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 03.2 | potassium (atoms) lose electrons | | 1 | AO2 |
| | chlorine (atoms) gain electrons | | 1 | AO2 |
| | reference to one electron | | 1 | AO2 |
| | any **one** from:<br>• to form ions<br>• to form full outer shell(s)<br>• to form full energy level(s) | allow to form a noble gas structure | 1 | AO1<br>5.2.1.2 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 03.3 |  | | 1 | AO2<br>5.2.1.3 |

5.1.1.1 Atoms, elements and compounds

Answer 06 · Mark scheme



| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 03.4 | one shared pair in each overlap | allow any combination of circles, dots, crosses, $e^{(-)}$ for electrons | 1 | AO1 5.2.1.1 5.2.1.4 |
| | four non-bonding electrons in outer shell of oxygen | do **not** accept extra electron(s) on outer shell of hydrogen<br>ignore any inner shell electrons<br>the diagram below scores 2 marks<br> | 1 | |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 03.5 | 1 Si : 2 O | allow 6 Si : 12 O | 1 | AO3 5.2.1.4 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 03.6 | weak intermolecular forces | | 1 | AO1 5.2.2.5 |

5.1.1.1 Atoms, elements and compounds

Answer 06 · Mark scheme

June 2023 | 8464/C/1F | Original Q3

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 03.7 | | ignore references to boiling point | | AO3<br>5.2.2.4<br>5.2.2.5 |
| | the melting point increases as the length of the polymer molecule increases | allow **1** mark for melting point increases | 2 | |
| | (then the) melting point levels off (as the polymer molecule length increases) | allow (then the) melting point becomes constant (as the polymer molecule length increases) | 1 | |

| Total Question 3 | 13 |
|---|---|

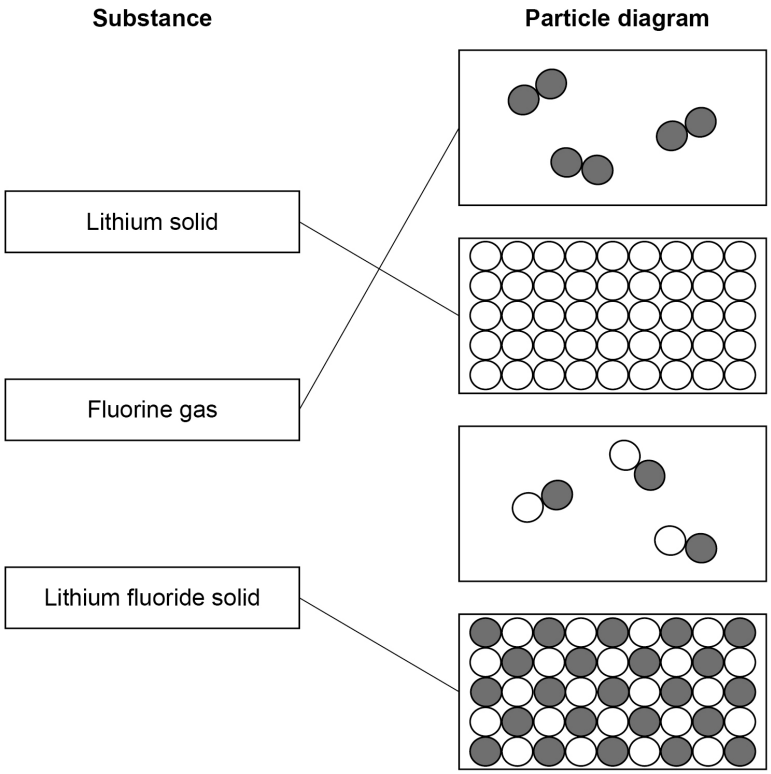
Answer 07 · Mark scheme

June 2025 | 8464/C/1F | Original Q2

## Question 2

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 02.1 | Li | | 1 | AO1 5.1.1.1 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 02.2 | delocalised electrons from the outer shell | | 1 | AO1 5.2.1.5 |

| Question | Answers | Mark | AO / Spec. Ref. |
|---|---|---|---|
| 02.3 | <br>do **not** accept more than one line from a box on the left | 1<br>1<br>1 | AO3 5.1.1.1 5.2.2.1 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 02.4 | **D** | | 1 | AO3 5.2.2.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **02.5** | diamond | | 1 | AO1<br>5.2.3.1 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **02.6** | (relative formula mass =)<br>12 + (19 × 4)<br><br>= 88 | | 1<br><br>1 | AO2<br>5.3.1.2 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **02.7** | 6 | allow 3 pairs | 1 | AO2<br>5.2.1.1<br>5.2.1.4 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **02.8** | nitride | | 1 | AO2<br>5.1.1.1 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **02.9** | neon has a stable arrangement of electrons | | 1 | AO1<br>5.1.2.4 |

| **Total Question 2** | **12** |
|---|---|

5.1.1.1 Atoms, elements and compounds

Answer 08 · Mark scheme

June 2025 | 8464/C/1F | Original Q4

## Question 4

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.1** | compounds | | 1 | AO1 5.4.1.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.2** | iron is less reactive than carbon | | 1 | AO1 5.4.1.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.3** | to reduce the amount of energy used | | 1 | AO1 5.4.3.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.4** | the electrodes react with oxygen gas | | 1 | AO1 5.4.3.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **04.5** | the alloy is harder than the pure metal | | 1 | AO1 5.2.2.7 |

5.1.1.1 Atoms, elements and compounds

Answer 08 · Mark scheme



| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| 04.6 | (melting point of alloy) decreases | | 1 | AO2 5.2.2.7 |
| | until 70% (silver) | allow a value in the range 69% to 71% | 1 | |
| | **or** | | | |
| | until 530 °C | allow a value in the range 520 °C to 540 °C | | |
| | then (melting point) increases | | 1 | |
| | | if no other mark awarded, allow **1** mark for (melting point) increases from 660 °C to 960 °C **or** (melting point) increases by 300 °C | | |

| Total Question 4 | 8 |
|---|---|

5.1.1.1 Atoms, elements and compounds

Answer 04 · Examiner comments — November 2021 | 8464/C/2F | Original Q1

**Question 1 (low and standard demand)**

The reversible symbol was well known, but many students did not recognise that the starting point for the reaction was the anhydrous form of copper sulfate, so were unable to identify the colours of the salts. They did not appreciate the link between the reversible reaction and the storage of the anhydrous salt. Most students referred incorrectly to the toxicity of the salt.

The topic of water treatment was not well understood. Credit was given for the idea of filtering removing large insoluble solid material from the water and sterilising removing bacteria and pathogens, but not germs.

Answer 05 · Examiner comments — June 2022 | 8464/C/1F | Original Q4

**Question 4 (Low and standard demand)**

04.1 More than 70% of students correctly balanced the equation. Some students changed the formula, usually from MgO to $MgO_2$

04.2 Almost three-quarters of students stated a safety precaution that should be taken when heating magnesium and oxygen. The most common correct responses were to wear eye protection and to use tongs.

04.3 Almost one-quarter of students gave the correct answer for the relative formula mass of magnesium fluoride. These students recognised that the subscript 2 means the relative atomic mass of fluorine needed to be doubled before being added to the relative atomic

5.1.1.1 Atoms, elements and compounds

**Answer 05 · Examiner comments** June 2022 | 8464/C/1F | Original Q4

mass of magnesium. Many showed clear steps in their calculation. The most common errors were to either add or multiply 24 and 19.

04.4 Magnesium does not react when heated with argon - argon is unreactive because argon atoms have eight electrons in the outer shell. Common responses referred to magnesium (and argon) both being unreactive, that metals (or solids) do not react with gases or that both elements had full outer shells. This question discriminated well.

04.5 Almost 60% of students gained at least one of the two marks for correctly deducing the method used to extract a metal. The students were given a reactivity series showing the position of these two metals compared to other known metals, carbon and hydrogen.

04.6 Students found difficulty in explaning why sodium chloride conducts electricity when molten but not when a solid. Many indicated that this was due to something being able to move but failed to link this to ions or charged particles. Most referred to moving particles, atoms or electrons.

04.7 Students also found difficulty in explaning why sodium conducts electricity when solid. Delocalised electrons were rarely seen as was the concept of these delocalised electrons carrying charge through the sodium.

**Answer 06 · Examiner comments** June 2023 | 8464/C/1F | Original Q3

**Question 3 (low/standard demand)**

03.1 More than half the students identified the noble gases as the group of elements that do not form ions.

03.2 This question was a good discriminator. Many gained the first three marks although MP4 was less common. Many incorrect terms such as ‘atoms sharing electrons to form ionic bonds’, ‘metal ions losing electrons’ and ‘non-metal ions gaining electrons’ were seen.

03.3 More than two thirds of students identified the structure that represents the arrangement of ions in solid potassium chloride. The first option was the best distractor.

03.4 More than a quarter of students correctly drew a dot and cross diagram for water. When only one mark was gained this was usually for the shared electrons in the overlap between oxygen and one of the hydrogen atoms. Some failed to show that there are four unshared electrons on the oxygen atom and others added more electrons into the circle around one or both of the hydrogen atoms.

03.5 More than three-quarters of students deduced the ratio of silicon atoms to oxygen atoms from the structure of silica.

### 5.1.1.1 Atoms, elements and compounds

**Answer 06 · Examiner comments** June 2023 | 8464/C/1F | Original Q3

03.6 Only 20% of students knew that weak intermolecular forces hold polymer molecules together in a polymer. Covalent bonds and electrostatic attraction between ions were perhaps terms more familiar to the students and both proved more popular options than the correct answer.

03.7 Students found difficulty in recognising the link between the two variables from the *x*-axis and the *y*-axis. Many stated that as the melting point increases the length of the polymer molecule increases. Students should appreciate that the independent variable is on the *x*-axis and that as this is changed, the effect on the dependent variable (*y*-axis) can be observed ie as the length of the polymer molecule increases (independent, *x*-axis) then the melting point increases (dependent, *y*-axis).

Answer 07 · Examiner comments

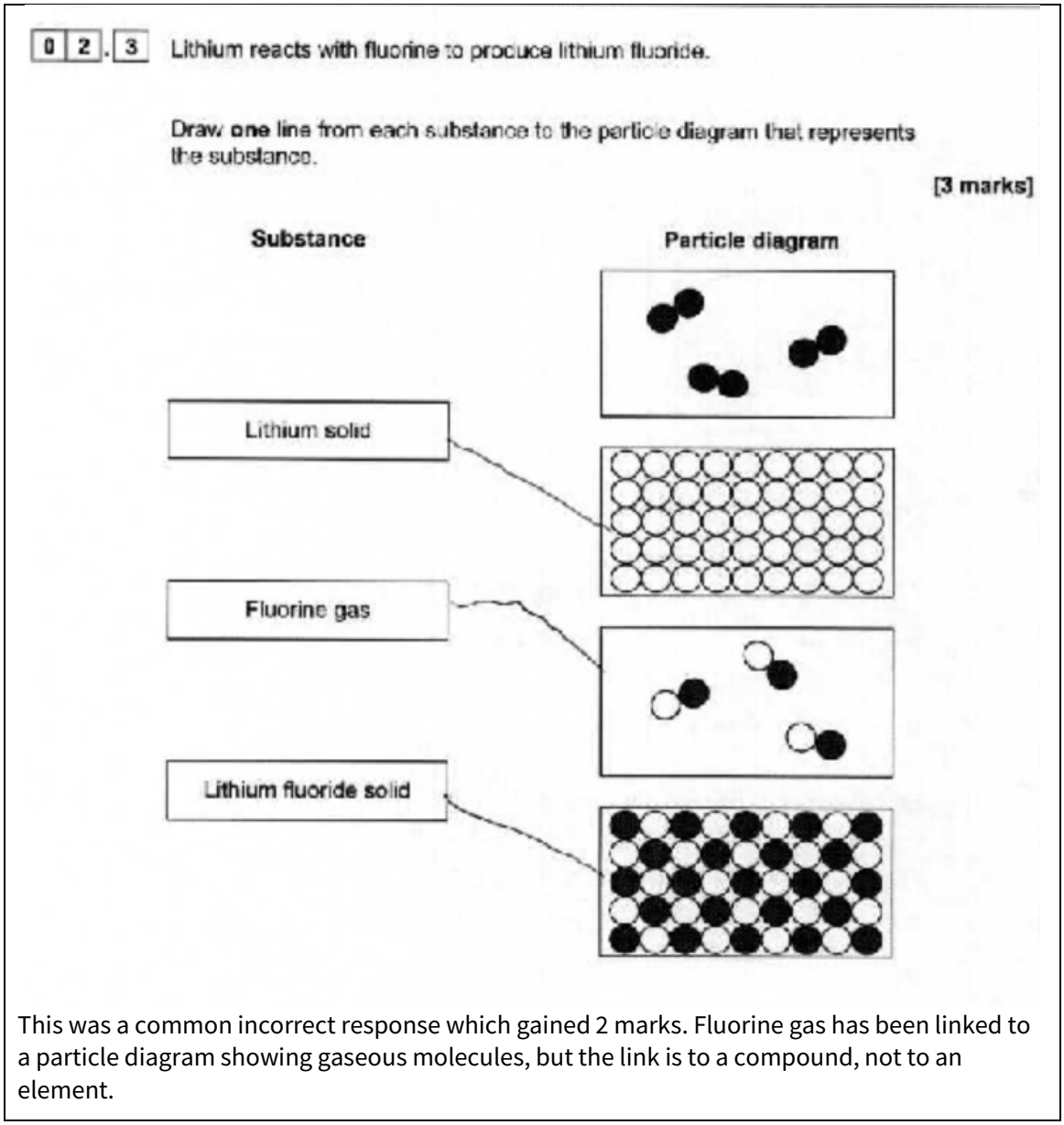
June 2025 | 8464/C/1F | Original Q2

# Question 2 (Low demand)

**02.1** Many students correctly wrote the chemical symbol of lithium with a capital L followed by a lower case i. When writing symbols lowercase letters must be discernibly smaller than capitals.

**02.2** More than half of students knew that delocalised electrons from the outer shell are involved in metallic bonding. Fixed electrons in the outer shell was the most popular incorrect distractor.

**02.3** Students should recognise particle diagrams for solid and gaseous states and for elements and compounds. Different colour circles are used to represent different atoms or ions so students should deduce that both the (diatomic) fluorine gaseous molecule and lithium solid particle diagram would only have one colour circle whereas the ionic compound lithium fluoride solid particle diagram would have two different colour circles. The majority of students correctly linked the substance to the particle diagram that represents the substance.




This was a common incorrect response which gained 2 marks. Fluorine gas has been linked to a particle diagram showing gaseous molecules, but the link is to a compound, not to an element.

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### 5.1.1.1 Atoms, elements and compounds

**Answer 07 · Examiner comments** June 2025 | 8464/C/1F | Original Q2

**02.4** Just over half the students were able to use the electrical conductivity of a substance when solid and liquid to identify the ionic compound lithium fluoride.

**02.5** Just over half the students recognised the structure of diamond. Graphite was the most common incorrect response.

**02.6** A third of students gained both marks for 88 with or without working. Some gained 1 mark for the correct mathematical expression or writing 12 + 76. Many students did not multiply the number of atoms by the relative atomic mass of the atom so gave either 31 or 288 by adding or multiplying the $A_r$ values of carbon and fluorine or used the 4 (atoms of fluorine) as a power giving a $M_r$ of several thousand.

**02.7** Just over half the students identified that six shared electrons were shown in the overlap of energy levels in the diagram representing a molecule of nitrogen. Three pairs would have been an acceptable answer although 3 was a common incorrect answer.

**02.8** Only 5% of students were able to select the word from the box to complete the name of the compound with the formula $Li_3N$. The most common answer was nitrogen. Credit was awarded if the student identified the correct answer in the box, provided this was not contradicted by what was written in the answer space.

**02.9** Just under half of students knew that neon does not react with other elements because neon has a stable arrangement of electrons. The most popular incorrect distractor was neon is a non-metallic element.

Answer 08 · Examiner comments



# Question 4 (Low demand)

**04.1** Half the students were able to select the word from the box to complete the sentence that most metals are found in the Earth as compounds. Elements was the common incorrect distractor. Credit was awarded if the student identified the correct answer in the box.

**04.2** Half the students knew that iron is extracted from iron oxide by reduction with carbon because iron is less reactive than carbon. A third of students selected the incorrect converse response that iron is more reactive than carbon.

**04.3** Less than half of students knew that cryolite is added to aluminium oxide to reduce the amount of energy used in the extraction of aluminium from aluminium oxide by electrolysis. The most popular incorrect distractor was to reduce the rate of reaction.

**04.4** In the extraction of aluminium from aluminium oxide by electrolysis the positive electrodes need to be replaced. Fewer than 20% of students knew that this is because the electrodes react with oxygen gas. The other three options were all more popular. The electrodes react with aluminium was the most common incorrect response.

**04.5** Just under half of students recalled that an alloy is harder than a pure metal. The converse statement an alloy is less hard than a pure metal was the most popular incorrect distractor.

**04.6** When describing trends in graphs examiners are looking for students to state how the change in the *x*-axis (an increase in the independent variable) affects the value plotted on the *y*-axis (the dependent variable). In figure 9 as the percentage of silver in the mixture (*x*-axis) increased the melting point (*y*-axis) decreased. However, there was a marked change in the trend at 70% silver (where the curve was a minimum) after which the melting point increased. Students may have realised how the 3 marks were allocated. Examiners were not looking for a description of the rate of changes e.g. a sharp increase after 70% silver. Some students were careless with their terminology referring to the percentage of aluminium not silver and the boiling point of the alloy. A third of students gained all 3 marks. Many were awarded 1 mark usually for the initial decrease in melting point.

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### 5.1.1.1 Atoms, elements and compounds

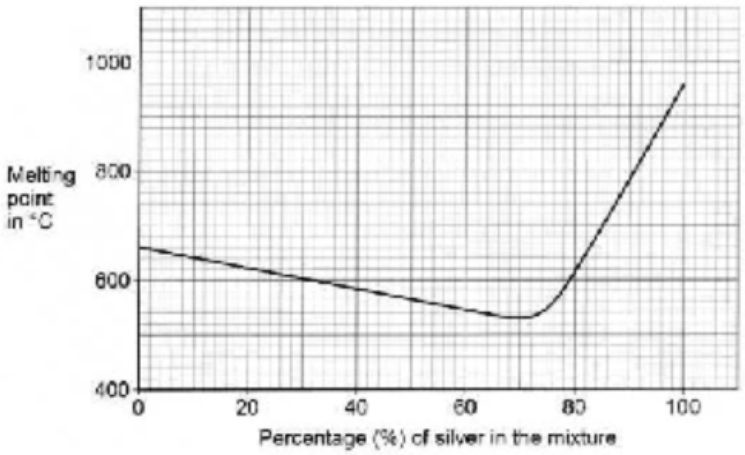
**Answer 08 · Examiner comments**

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0 4 . 6 Aluminium can form an alloy with silver.

**Figure 9** shows how the melting point of the alloy changes with the percentage (%) of silver in the mixture.

**Figure 9**




Describe how the melting point of the alloy changes as the percentage of silver in the mixture increases.

Use data from **Figure 9**.

**[3 marks]**

the melting point decreases as the percentage of silver increases, however once the mixture is over 70% the melting point significantly increases.

All 3 marking points were awarded. The student has described an initial decrease (in melting point), followed by an increase and has also indicated the point at which the change occurs.

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