AQA GCSE Chemistry

Using resources mark scheme · goes with “Using resources · Foundation tier” · whiteboardchemistry.com/revision/gcse-chemistry/exam-questions

Mark schemes

Using resources · Foundation tier · 5 questions

Q1 · June 2024 · Paper 2 Foundation · Q7 · [10 marks]

07.1

alloy

reinforcement

[2 marks]

07.2

burning (of methane) releases carbon dioxide

allow burning methane

ignore methane is a greenhouse gas

decomposition (of limestone) releases carbon dioxide

allow decomposition of limestone

[2 marks]

07.3

hydrochloric acid

limewater

[2 marks]

07.4

allow converse for plain concrete

(pre-stressed concrete) can bear the weight of (heavy) traffic

allow (pre-stressed concrete) bridge is less likely to collapse

(because pre-stressed concrete is) stronger

do not accept (because pre-stressed concrete is) more dense

[2 marks]

07.5

allow converse for pre-stressed concrete

any **two** from:

(plain concrete slabs)

- are cheaper
- will be lighter (to transport / lay)

- do not need to carry vehicles

[2 marks]

Q2 · June 2025 · Paper 2 Foundation · Q10 · Paper 2 Higher · Q3 · [9 marks]

10.1

Level 3 (5–6 marks): A judgement, strongly linked and logically supported by a sufficient range of correct reasons, is given.

Level 2 (3–4 marks): Some logically linked reasons are given. There may also be a simple judgement.

Level 1 (1–2 marks): Relevant points are made. They are not logically linked.

No relevant content (0 marks)

Indicative content

- aluminium ore is a finite resource
- wood is a renewable resource
- aluminium ore has to be mined / quarried

o which causes dust / noise pollution

- trees require land for growing

o which reduces land for farming

o which can lead to deforestation

- cost of wood is lower

o so more doors can be obtained for the same cost

- aluminium is stronger

o so less easily damaged

- aluminium doors do not need painting

o so less maintenance required

- both are recyclable

o so resources are conserved

o so less goes into landfill

o so less fossil fuels used

o so less climate change

- judgement

[6 marks]

10.2

(the oxide coating) acts as a barrier

do not accept sacrificial protection

(that) prevents air / oxygen / water reaching the aluminium / metal

do not accept references to rusting

do not accept sacrificial protection

[2 marks]

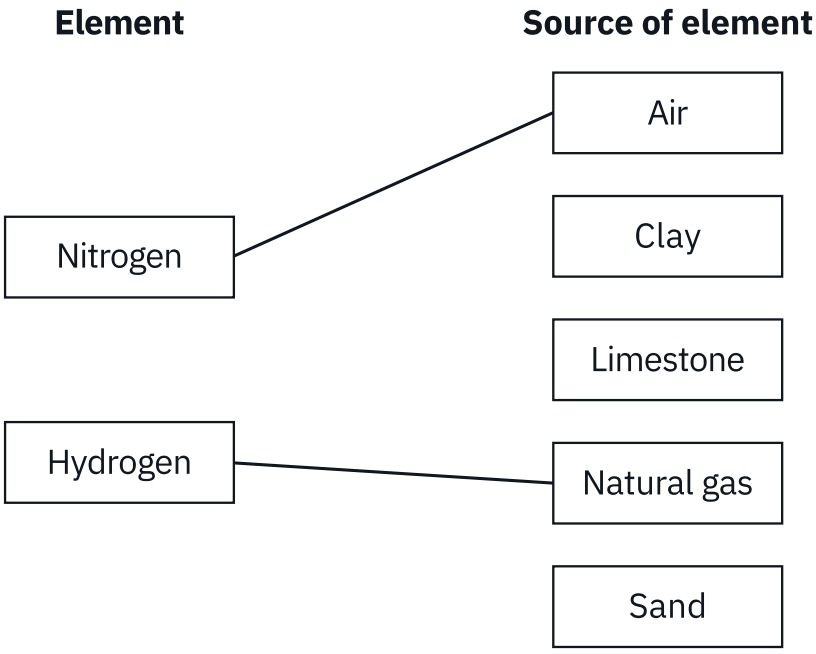
10.3

a fixed mass of pigment and a fixed mass of liquid

[1 mark]

Q3 · June 2025 · Paper 2 Foundation · Q4 · [12 marks]

04.1



do not accept more than one line from a box on the left

[2 marks]

04.2

cooling

[1 mark]

04.3

catalyst

[1 mark]

04.4

(world production of ammonia) increased

[1 mark]

04.5

(change in mass = 165 – 130 =)

35 (arbitrary units)

(number of years = 2020 – 2000

=) 20

(mean change =) (35)/(20)

allow correct use of incorrectly determined change in mass and / or number of years

= 1.75 (arbitrary units per year)

allow 1.75 (arbitrary units per year) correctly rounded to at least 2 significant figures

[4 marks]

04.6

change in world population

[1 mark]

04.7

$Ca(NO_3)_2$

$(NH_4)_2SO_4$

[2 marks]

Q4 · June 2025 · Paper 2 Foundation · Q7 · [9 marks]

07.1

(mass =) (75)/(100) x 4

= 3 (g)

[2 marks]

07.2

3 : 1

[1 mark]

07.3

copper

silver

[2 marks]

07.4

(18 carat gold) contains different sized atoms

(so the) layers are distorted

(so the) layers (of atoms) slide less easily

allow (so the) atoms cannot slide over each other

[3 marks]

07.5

any **one** from:

- iron rusts
- aesthetic reasons

[1 mark]

Q5 · June 2025 · Paper 2 Foundation · Q8 · Paper 2 Higher · Q1 · [11 marks]

08.1

(a burette is) more accurate (than a measuring cylinder)

allow (a burette has) a higher resolution

ignore precise

[1 mark]

08.2

the mass of (dissolved) solids

[1 mark]

08.3

reheat (the evaporating basin and contents)

(and reweigh) until constant mass

*allow for **2** marks heat to constant mass*

[2 marks]

08.4

subtract the mass of the (empty) evaporating basin from the mass of the evaporating basin and contents (at the end of the experiment)

allow subtract initial mass from the final mass

[1 mark]

08.5

(allow mean mass =)

(0.35 + 0.37 + 0.33 + 0.34)/(4)

(allow mean mass =)

1.39

4

= 0.3475 (g)

(conversion 10 cm^3 =) 0.01 dm^3

(mean concentration =) (0.3475)/(0.01)

allow correct use of incorrectly determined mean mass

allow correct use of incorrect / no conversion of volume

= 34.75 (g/dm^3)

allow 34.75 (g/dm^3) correctly rounded to at least 2 significant figures

alternative approach 1

(conversion 10 cm^3 =)

0.01 dm^3 (1)

(concentrations =)

(0.35)/(0.01) (0.37)/(0.01) (0.33)/(0.01) (0.34)/(0.01) (1)

allow correct use of incorrect / no conversion of volume

= 35 37 33 34 (1)

(mean concentration =)

(35 + 37 + 33 + 34)/(4) (1)

(allow mean concentration =)

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4

allow correct use of incorrectly determined concentrations

= 34.75 (g/dm^3) (1)

allow 34.75 (g/dm^3) correctly rounded to at least 2 significant figures

alternative approach 2 using total mass and total volume

(total mass = 0.35 + 0.37 + 0.33 + 0.34 =)

1.39 (g) (1)

(total volume = 10 + 10 + 10 + 10 =)

40 cm^3 (1)

(conversion 40 cm^3 =)

0.04 dm^3 (1)

(mean concentration =) (1.39)/(0.04)

allow correct use of incorrectly determined total mass

allow correct use of incorrect / no conversion of total volume

= 34.75 (g/dm^3) (1)

allow 34.75 (g/dm^3) correctly rounded to at least 2 significant figures

[5 marks]

08.6

the samples were taken from different places

[1 mark]

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