AQA GCSE Chemistry

Chemistry of the atmosphere mark scheme · goes with “Chemistry of the atmosphere · Foundation tier” · whiteboardchemistry.com/revision/gcse-chemistry/exam-questions

Mark schemes

Chemistry of the atmosphere · Foundation tier · 6 questions

Q1 · June 2023 · Paper 2 Foundation · Q1 · [9 marks]

01.1

Mars

[1 mark]

01.2

20%

[1 mark]

01.3

algae and plants evolved

photosynthesis took place

[2 marks]

01.4

(y-axis labelled) 5, 10, 15, (20)

allow (y-axis labelled) 4, 8, 12,

16, (20)

ignore correct intermediate values

oxygen bar drawn to 16%

allow a tolerance of ± ½ a small square

[2 marks]

01.5

test tube A

[1 mark]

01.6

a glowing splint

[1 mark]

01.7

manganese dioxide is a catalyst in this reaction

[1 mark]

Q2 · June 2023 · Paper 2 Foundation · Q5 · [9 marks]

05.1

carbon dioxide

methane

[2 marks]

05.2

(greenhouse gases) maintain temperatures on Earth (high enough to support life)

[1 mark]

05.3

(greenhouse gases absorb long wavelength) radiation

(greenhouse gases absorb long wavelength) infra-red (radiation)

[1 mark]

05.4

higher sea levels

melting polar ice

[2 marks]

05.5

(mass =)

$\frac{0.25}{100} \times 350$

= 0.875 (kg)

= 875 (g)

allow a correct conversion of an incorrectly determined mass

alternative approach:

350 kg = 350 000 g (1)

(mass =)

$\frac{0.25}{100} \times 350\,000$ (1)

allow correct use of incorrect / no conversion of mass

= 875 (g) (1)

[3 marks]

Q3 · June 2024 · Paper 2 Foundation · Q2 · [9 marks]

02.1

increases

[1 mark]

02.2

(mass =) $\frac{7000}{3000}$

= 2.33 (kg)

allow 2.333333 correctly rounded to at least 2 significant figures

[2 marks]

02.3

rain

[1 mark]

02.4

five points plotted correctly

allow a tolerance of ± ½ a small square

*allow three or four points plotted correctly for **1** mark*

line of best fit

[3 marks]

02.5

increases

[1 mark]

02.6

dimming

[1 mark]

Q4 · June 2024 · Paper 2 Foundation · Q4 · [13 marks]

04.1

percentage of nitrogen increases

until 2.3 billion years

allow a value in the range 2.1 to 2.4 billion years

allow until 80%

then remains constant

[3 marks]

04.2

the percentage of carbon dioxide decreased

[1 mark]

04.3

light

[1 mark]

04.4

algae

plants

[2 marks]

04.5

cellulose

starch

[2 marks]

04.6

1.4×10^{11}

[1 mark]

04.7

70 000 000 000

[1 mark]

04.8

helix

[1 mark]

04.9

4

[1 mark]

Q5 · June 2025 · Paper 2 Foundation · Q6 · [8 marks]

06.1

line of best fit

[1 mark]

06.2

40 (%)

[1 mark]

06.3

carbon dioxide was dissolved in oceans

[1 mark]

06.4

nitrogen was released during volcanic activity

[1 mark]

06.5

2.5 billion years ago

[1 mark]

06.6

ammonia

methane

[2 marks]

06.7

photosynthesis

[1 mark]

Q6 · November 2021 · Paper 2 Foundation · Q1 · [9 marks]

01.1

4.6 billion years ago

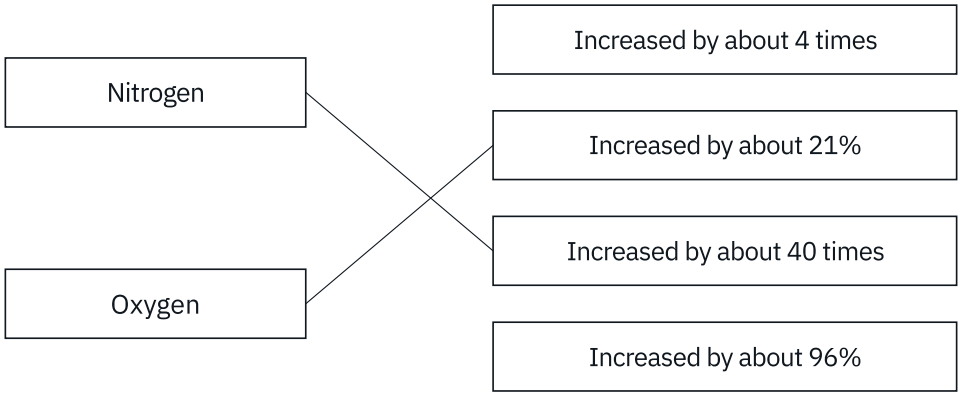
[1 mark]

01.2

0.92 (%)

[1 mark]

01.3



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

[2 marks]

01.4

carbon dioxide dissolving in sea water

formation of sedimentary rocks

[2 marks]

01.5

carbon dioxide (+ water →)

allow CO_2

(→ glucose +) oxygen

allow O_2

[2 marks]

01.6

evidence / proof

[1 mark]

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