PEARSON EDEXCEL GCSE COMBINED SCIENCE (HIGHER) · 1SC0

CHEMISTRY



EXAM QUESTION PACK

TOPIC 8: FUELS AND EARTH SCIENCE: EARTH AND ATMOSPHERIC SCIENCE (PAPER 2)

SCORE	PERCENTAGE
/105	%

STEMUP

These questions belong to Pearson Edexcel, not to us.

The examination questions, mark schemes and examiner comments in this pack were written and published by Pearson Edexcel. They are past assessment materials, reproduced here so that students can revise from them.

What we do not own

STEMUP is not affiliated with Pearson Edexcel and does not own, and makes no claim to own, any of the question, mark scheme or examiner report material in this pack. Pearson Edexcel has not endorsed, approved or been involved in the production of it. Pearson Edexcel and the qualification titles used here belong to their respective owners and appear for identification only.

Where to find the originals

Pearson Edexcel publishes its past papers, mark schemes and examiner reports. Always check the current specification at qualifications.pearson.com before you revise, because content and wording can change between series.

If you hold the rights to any material in this pack and would like it amended or removed, contact admin@stemup.co.uk and we will act on it.

Q1.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Damp iron wool reacts with oxygen in the air.
A student uses the apparatus in Figure 4 to investigate the percentage of oxygen in the atmosphere.

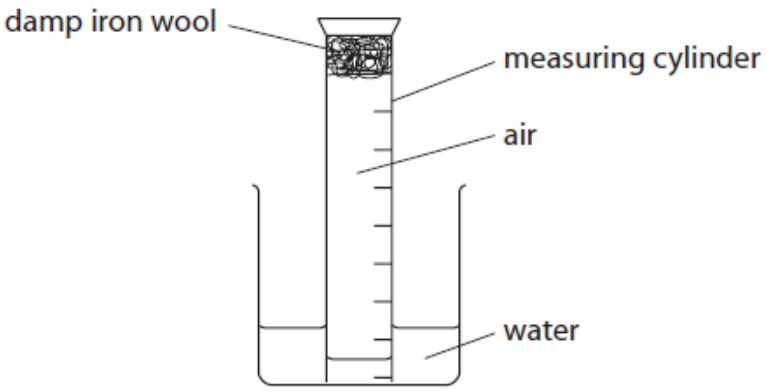


Figure 4

(i) The initial volume of air in the measuring cylinder was 18.0 cm^3 .

The student left the apparatus overnight.

The volume of gas in the measuring cylinder the next day was 14.5 cm^3 .

To the nearest whole number, what percentage of the air has reacted with the iron wool?

(1)

☒ **A** 19%

☒ **B** 21%

☒ **C** 24%

☒ **D** 81%

(ii) Describe **one** improvement the student could make to this method to ensure that all of the oxygen in the measuring cylinder has reacted.

(2)

.....

.....

.....

.....

(Total for question = 3 marks)

(**QU04a 1SC0/2CH, June 2024**)

Q2.

A scientist produced the information in Figure 6 about the Earth's atmosphere and the Earth's average surface temperature.

Earth's atmosphere 3 billion years ago		Earth's atmosphere today	
gas	**%**	**gas**	**%**
carbon dioxide	95	nitrogen	78.00
water vapour	4	oxygen	21.00
all other gases	1	carbon dioxide	0.04
		all other gases including water vapour	0.96
average surface temperature 3 billion years ago		**average surface temperature today**	
above 400 °C		20 °C	

Figure 6

Many people are concerned by the increasing amount of carbon dioxide in the atmosphere.

(i) The amount of carbon dioxide in the atmosphere is measured in parts per million (ppm).

Figure 7 shows the amount of carbon dioxide in the atmosphere in June 2001 and in June 2021.

	amount of carbon dioxide in ppm
June 2001	371.17
June 2021	416.56

Figure 7

Calculate the increase in the amount of carbon dioxide, in ppm, from June 2001 to June 2021.

Give your answer to the nearest whole number.

(2)

.....

.....

.....

increase in amount of carbon dioxide = ... ppm

(ii) State **one** possible effect that could be caused by the increasing amount of carbon dioxide in the atmosphere.

(1)

.....

.....

(Total for question = 3 marks)

(**QU03d 1SC0/2CF, June 2023**)

Q3.

Figure 2 shows the percentage of different gases in the Earth's atmosphere.

gas	percentage of gas
nitrogen	78
oxygen	21
carbon dioxide	0.04
other gases	0.96

Figure 2

This data can be shown on a pie chart.

Calculate the angle that should be used to show the segment for nitrogen on the pie chart.

You must show your working.

(2)

.....

.....

.....

.....

angle = ...

(Total for question = 2 marks)

(**Q03a 1SC0/2CH/S2, SAM**)

Q4.

The concentration of carbon dioxide in the atmosphere can be measured in parts per million (ppm).

Figure 1 shows the measurements in January 2018 and January 2019.

	concentration of carbon dioxide in ppm
January 2018	407.96
January 2019	410.83

Figure 1

(i) Calculate the increase in the concentration, in ppm, of carbon dioxide from January 2018 to January 2019.

Give your answer to the nearest whole number.

(2)

.....

.....

.....

increase in concentration of carbon dioxide = ... ppm

(ii) Give a possible cause for this increase in the concentration of carbon dioxide.

(1)

.....

.....

.....

(Total for question = 3 marks)

(**Q01d 1SC0/2CF, Nov 2020**)

Q5.

Figure 3 shows the percentage of carbon dioxide in the Earth's atmosphere and the mean temperature on the Earth's surface in 1960 and 2014.

year	percentage of carbon dioxide	mean surface temperature in °C
1960	0.0318	14.0
2014	0.0401	14.4

Figure 3

(i) Calculate the increase in the percentage of carbon dioxide in the Earth's atmosphere from 1960 to 2014.

(1)

.....

.....

increase in percentage = ...

(ii) Give **two** reasons why the information in Figure 3 does not prove that the increase in the percentage of carbon dioxide causes the rise in temperature.

(2)

reason 1

.....

.....

reason 2

.....

.....

(Total for question = 3 marks)

(**Q01d 1SC0/2CF/S2, SAM**)

Q6.

Complete the sentence by putting a cross (☒) in the box next to your answer.

(i) The percentage of carbon dioxide in the Earth's atmosphere today is

(1)

☒ **A** greater than 5%

☒ **B** 4%

☒ **C** 3%

☒ **D** less than 0.5%

(ii) The percentage of carbon dioxide in the Earth's atmosphere today is less than that in the Earth's earliest atmosphere.
Explain what has caused the percentage of carbon dioxide to decrease.

(2)

.....

.....

.....

(iii) Carbon dioxide and other gases in the atmosphere help to keep the Earth warm.
State how these gases keep the Earth warm.

(1)

.....

.....

.....

.....

(**Q30 1SC0/2CH, June 2013**)

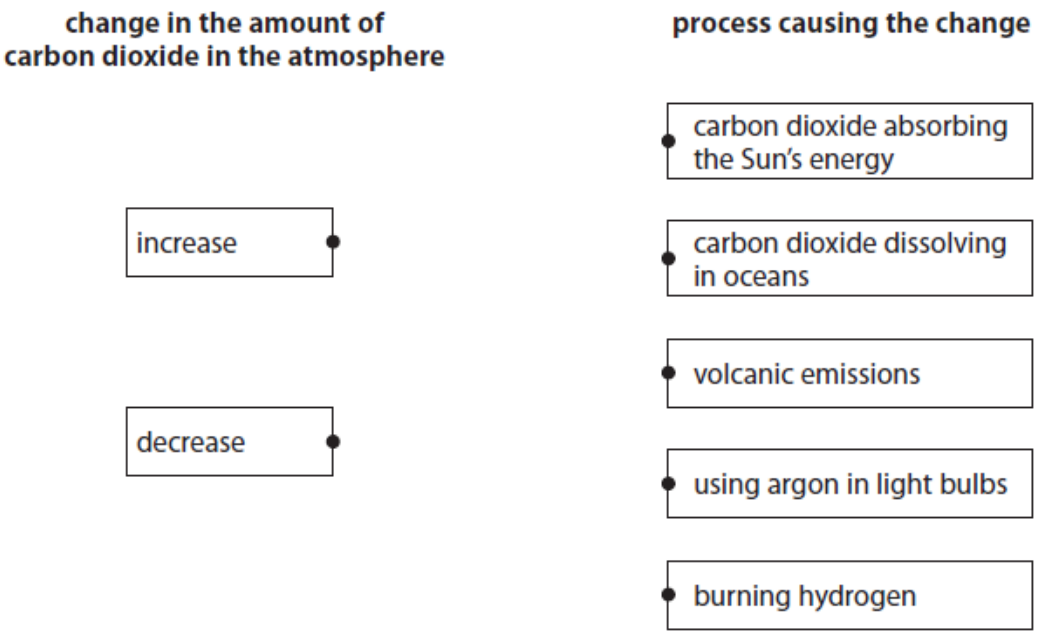
Q7.

Carbon dioxide is present in the Earth's atmosphere.

Some processes increase the amount of carbon dioxide in the atmosphere, other processes decrease it.

Draw one straight line from each change in the amount of carbon dioxide in the atmosphere to the process causing the change.

(2)



(Total for question = 2 marks)

(**Q18 1SC0/2CF, June 2018**)

Q8.

Four gases were present in the Earth's early atmosphere.

Figure 1 shows the percentages of these gases thought to have been present.

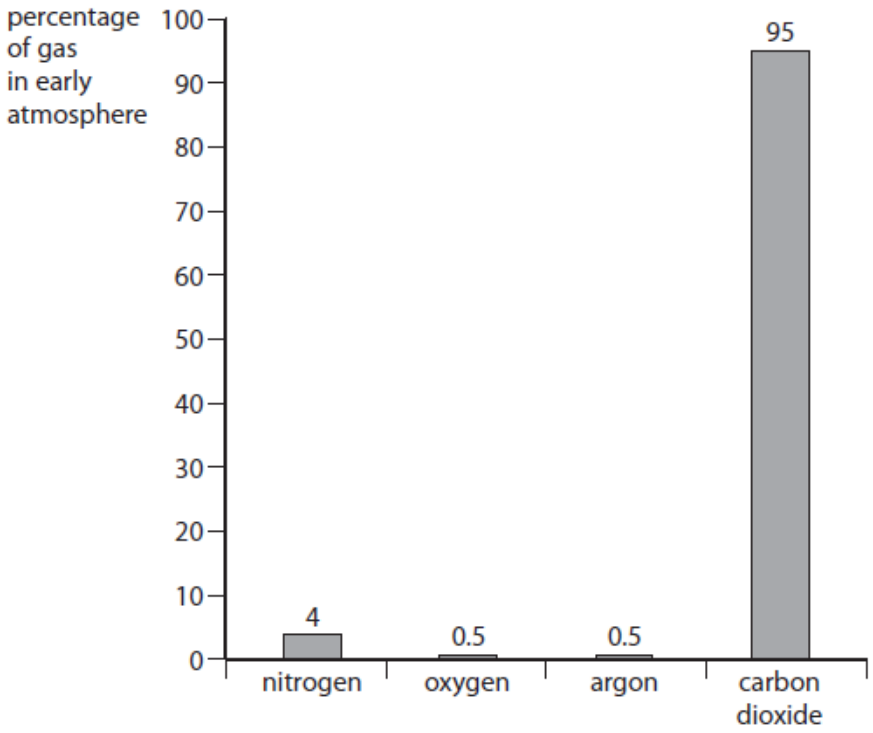


Figure 1

Figure 2 shows the percentages of these four gases in the atmosphere of the Earth today.

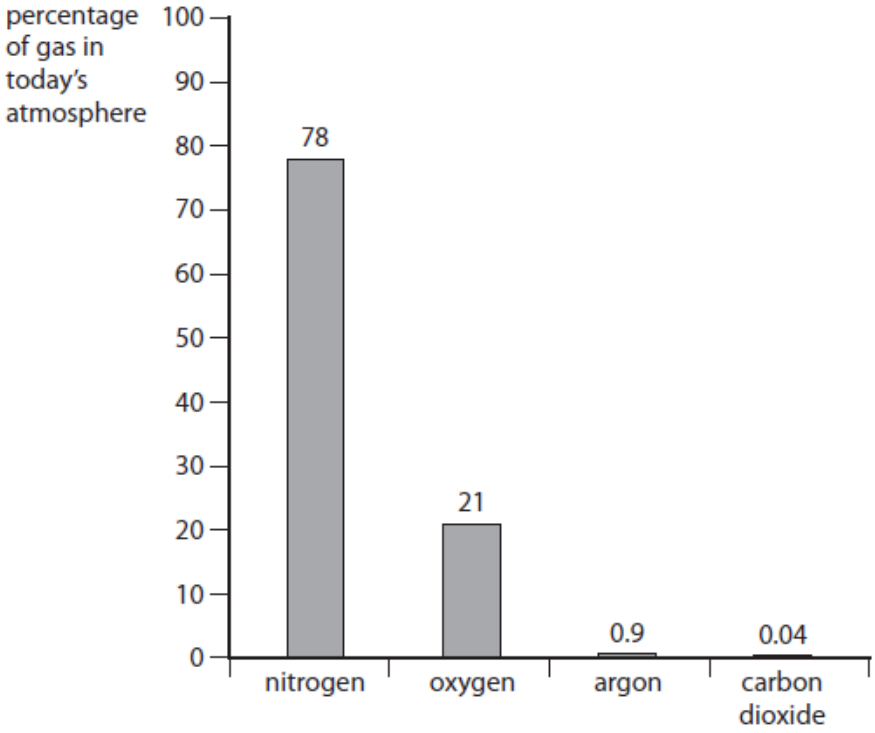


Figure 2

Which of the four gases has decreased by the largest percentage from the Earth's early atmosphere to today's atmosphere?

(1)

☒ **A** argon

☒ **B** carbon dioxide

☒ **C** nitrogen

☒ **D** oxygen

(Total for question = 1 mark)

(**Q01b 1SC0/2CF/S2, SAM**)

Q9.

The atmosphere contains 21% of oxygen.

(i) Figure 1 shows an incomplete bar chart of the main gases in the atmosphere.

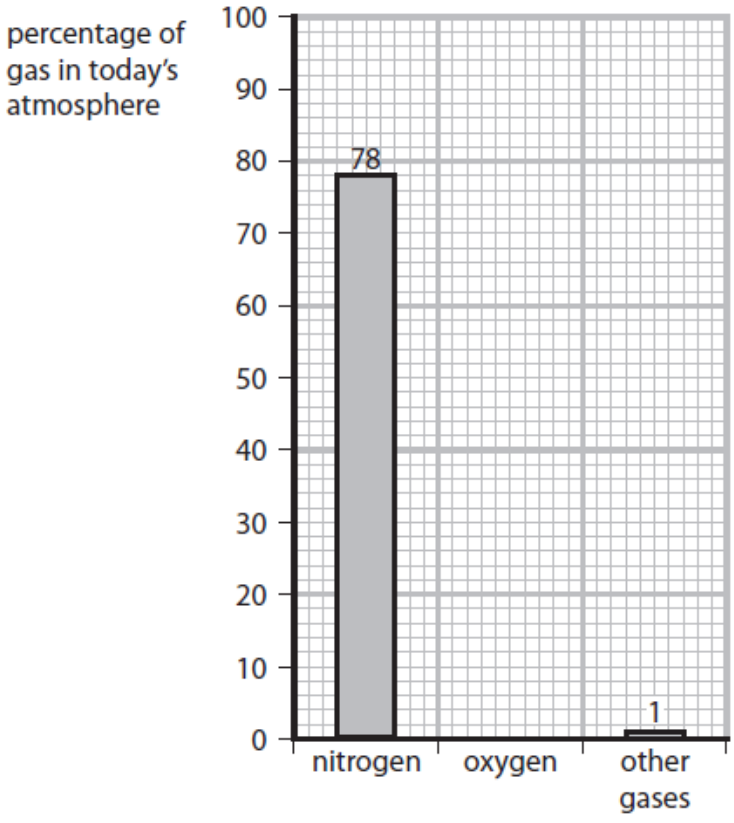


Figure 1

Complete the bar chart by showing the percentage of oxygen in the atmosphere.

(1)

(ii) Calculate the volume of oxygen present in 300 cm^3 of air.

(volumes are measured under the same conditions of temperature and pressure)

(2)

.....

.....

volume of oxygen = ... cm^3

(Total for question = 3 marks)

(**Q01b 1SC0/2CF, June 2019**)

Q10.

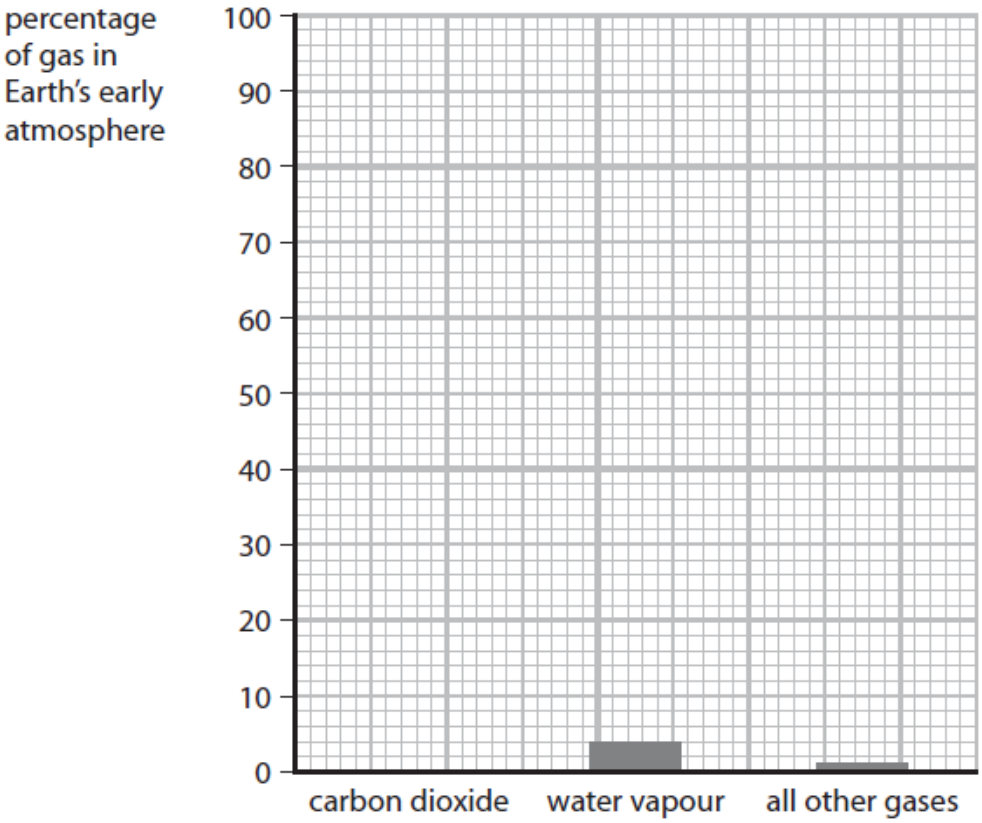
A scientist produced the information in Figure 6 about the Earth's atmosphere and the Earth's average surface temperature.

Earth's atmosphere 3 billion years ago		Earth's atmosphere today	
gas	**%**	**gas**	**%**
carbon dioxide	95	nitrogen	78.00
water vapour	4	oxygen	21.00
all other gases	1	carbon dioxide	0.04
		all other gases including water vapour	0.96
average surface temperature 3 billion years ago		**average surface temperature today**	
above 400 °C		20 °C	

Figure 6

Complete the bar chart showing the composition of the Earth's atmosphere 3 billion years ago by adding a bar to show the percentage of carbon dioxide.

(1)



(Total for question = 1 mark)

(**QU03a 1SC0/2CF, June 2023**)

Q11.

Much of the carbon dioxide present in the Earth's early atmosphere dissolved into the oceans.

This led to the formation of compounds including calcium carbonate, $CaCO_3$.

Some of the calcium carbonate reacted with magnesium ions to form dolomite, $CaMg(CO_3)_2$.

Complete the **ionic** equation for the reaction of calcium carbonate with magnesium ions.

(2)

$$\text{.....}CaCO_3 + \text{.....} \rightarrow \underset{\text{dolomite}}{CaMg(CO_3)_2} + Ca^{2+}$$

(Total for question = 2 marks)

(**Q04d 1SC0/2CH, Nov 2020**)

Q12.

A scientist produced the information in Figure 6 about the Earth's atmosphere and the Earth's average surface temperature.

Earth's atmosphere 3 billion years ago		**Earth's atmosphere today**	
gas	**%**	**gas**	**%**
carbon dioxide	95	nitrogen	78.00
water vapour	4	oxygen	21.00
all other gases	1	carbon dioxide	0.04
		all other gases including water vapour	0.96
average surface temperature 3 billion years ago		**average surface temperature today**	
above 400 °C		20 °C	

Figure 6

(i) Use words from the box to complete the following sentence.

(1)

has decreased	has increased	has stayed the same

Over the past 3 billion years the average surface temperature of the Earth

.....

(ii) The Earth's atmosphere 3 billion years ago contained much more water vapour than today's atmosphere.

Explain what happened to the water vapour.

(2)

.....

.....

.....

.....

(Total for question = 3 marks)

(**QU03b 1SC0/2CF, June 2023**)

Q13.

This question is about changes to the Earth's atmosphere.

Which of the following is a correct statement about the relative amounts of carbon dioxide and oxygen in the Earth's early atmosphere?

(1)

☒ **A** large amount of carbon dioxide and large amount of oxygen

☒ **B** large amount of carbon dioxide and small amount of oxygen

☒ **C** small amount of carbon dioxide and large amount of oxygen

☒ **D** small amount of carbon dioxide and small amount of oxygen

(Total for question = 1 mark)

(**Q01a 1SC0/2CH, SAM 2016**)

Q14.

This question is about the atmosphere.

Carbon dioxide is removed from the atmosphere by plants and stored in plants and soil as carbon compounds.

Figure 3 shows the relative amounts of carbon stored in plants and soils in different environments.

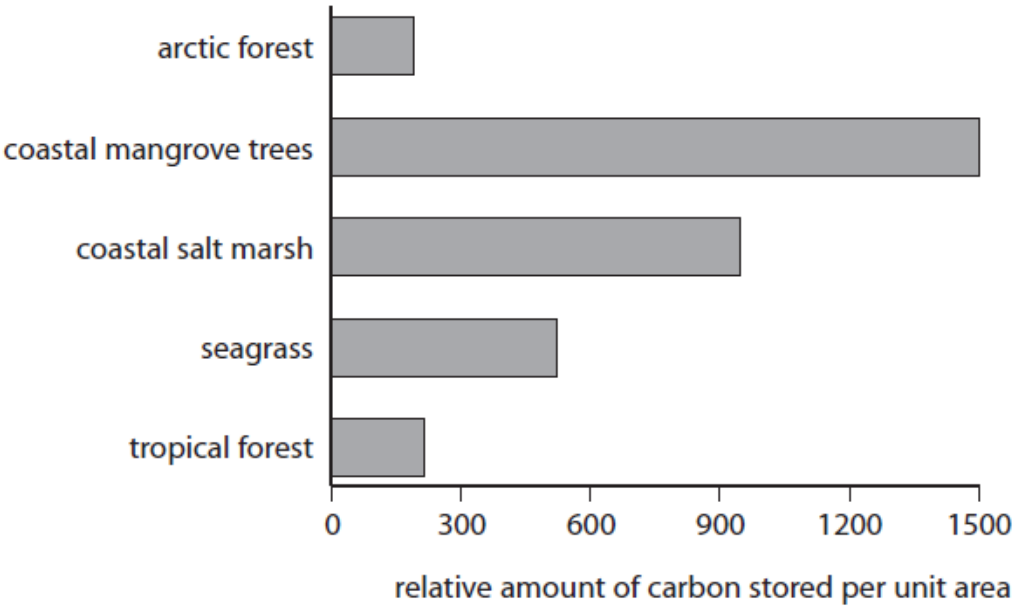


Figure 3

It has been suggested that preserving coastal ecosystems is more effective than reforestation in the mitigation of climate change.

Describe how the data in Figure 3 supports this suggestion.

(2)

.....

.....

.....

.....

(Total for question = 2 marks)

(**QU02d 1SC0/2CH, June 2024**)

Q15.

Potassium reacts with oxygen to form potassium oxide.

(i) Describe the test to show that a gas is oxygen.

(2)

.....

.....

.....

.....

(ii) Potassium oxide is ionic.

Write the electronic configurations for the ions in potassium oxide, K_2O.

(2)

potassium ion: .....

oxide ion: .....

(Total for question = 4 marks)

(**Q03c 1SC0/2CH, Nov 2021**)

Q16.

This question is about the atmosphere.

Describe the test to show that a gas is oxygen.

(2)

.....

.....

.....

(Total for question = 2 marks)

(**QU02a 1SC0/2CH, June 2024**)

Q17.

This question is about the atmosphere.

Describe the test to show that a gas is oxygen.

(2)

.....

.....

.....

(Total for question = 2 marks)

(**QU06a 1SC0/2CF, June 2024**)

Q18.

Figure 5 shows a sample of hydrogen peroxide solution decomposing to form water and oxygen gas.

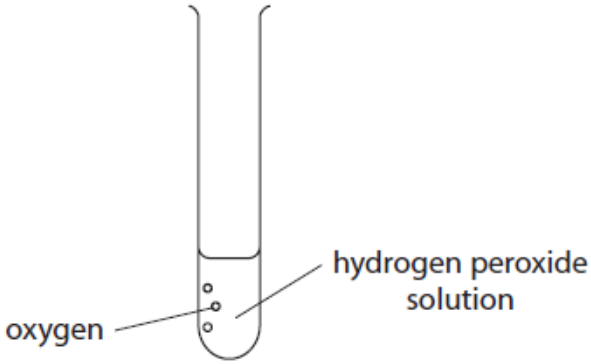


Figure 5

Describe the test to show the gas produced is oxygen.

(2)

.....

.....

.....

(Total for question = 2 marks)

(**Q04b 1SC0/2CF, Nov 2021**)

Q19.

Figure 4 shows two gas syringes connected by a glass tube.

Inside the glass tube there are some pieces of zinc.
Zinc reacts with oxygen at a temperature of over 225 °C.
Not all the oxygen reacts at once, the oxygen reacts only when in contact with the zinc.

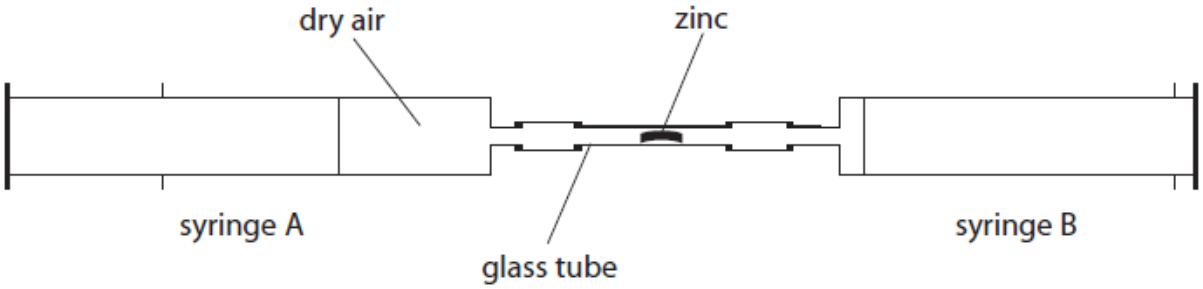


Figure 4

Devise a plan to find the volume of oxygen contained in a known volume of air, using the apparatus shown in Figure 4.

(4)

.....

.....

.....

.....

.....

.....

.....

.....

(Total for question = 4 marks)

(**Q03d 1SC0/2CH, Nov 2021**)

Q20.

(a) Complete the sentence by putting a cross (☒) in the box next to your answer.

The Earth's earliest atmosphere is thought to have been formed by

(1)

☒ **A** animals breathing

☒ **B** photosynthesis in plants

☒ **C** the oceans cooling

☒ **D** gases from volcanoes

(b) (i) Complete the sentence by putting a cross (☒) in the box next to your answer.

The Earth's earliest atmosphere contained large amounts of carbon dioxide.

The percentage of carbon dioxide in the Earth's atmosphere today is

(1)

☒ **A** less than 1%

☒ **B** 5%

☒ **C** 21%

☒ **D** 78%

(ii) Write the formula of a molecule of carbon dioxide.

(1)

.....

(iii) The percentage of carbon dioxide in the atmosphere has decreased since the Earth's earliest atmosphere.

Explain what has caused the amount of carbon dioxide in the atmosphere to decrease.

(2)

.....

.....

(iv) State one human activity that increases the amount of carbon dioxide in the atmosphere today.

(1)

.....

(v) Describe the test to show that a gas is carbon dioxide.

(2)

.....

.....

.....

(**Q19 1SC0/2CF, June 2015**)

Q21.

The Earth's atmosphere today has changed, when compared with the Earth's earliest atmosphere.

Two processes that caused changes were the cooling of the atmosphere and photosynthesis.

(i) State how cooling changed the composition of the Earth's atmosphere.

(1)

.....

.....

(ii) Explain how photosynthesis changed the composition of the Earth's atmosphere.

(2)

.....

.....

.....

.....

(**Q02 5CH2H/01, June 2015**)

Q22.

Several processes change the composition of the Earth's atmosphere.

Describe how the composition of the atmosphere is affected by burning fossil fuels.

(2)

.....

.....

.....

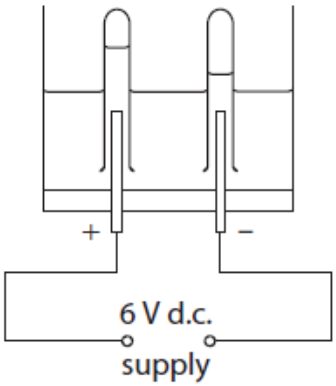
.....

(Total for question = 2 marks)

(**Q01b 1SC0/2CH, SAM 2016**)

Q23.

Sodium sulfate solution is electrolysed in the apparatus shown.



Sodium sulfate solution contains sodium ions, Na^+, sulfate ions, SO_4^{2-}, hydrogen ions, H^+, and hydroxide ions, OH^-.

Hydrogen is produced at one electrode and oxygen is produced at the other electrode.

Explain how these products are formed from the ions in the electrolysis process, indicating how you would identify the products.

You may give ionic equations in your answer.

(6)

.....

.....

.....

.....

.....

.....

.....

.....

.....

(**Q07 5CH2H/01, June 2015**)

Q24.

This question is about carbon and some carbon compounds.

* Natural processes and human activities change the amount of carbon dioxide in the atmosphere.

Figure 6 shows the concentration of carbon dioxide in the atmosphere measured in one location and the mean global temperature from 1960 to 2000.

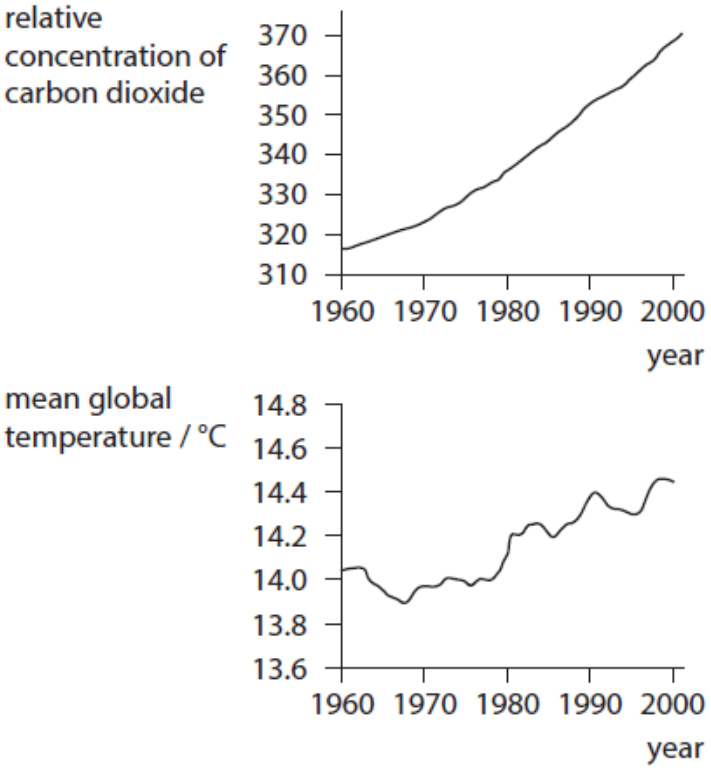


Figure 6

Evaluate whether the data in Figure 6 shows that the change in the amount of carbon dioxide is leading to climate change.

Your answer should include

- the natural processes that change the amount of carbon dioxide in the atmosphere
- the human activities that change the amount of carbon dioxide in the atmosphere
- how carbon dioxide contributes to the greenhouse effect and climate change.

(Total for question = 6 marks)

(**QU05d 1SC0/2CH, June 2025**)

Q25.

The graphs in Figure 1 and Figure 2 show the concentration of carbon dioxide in the atmosphere and the mean global temperature between 1960 and 2000.

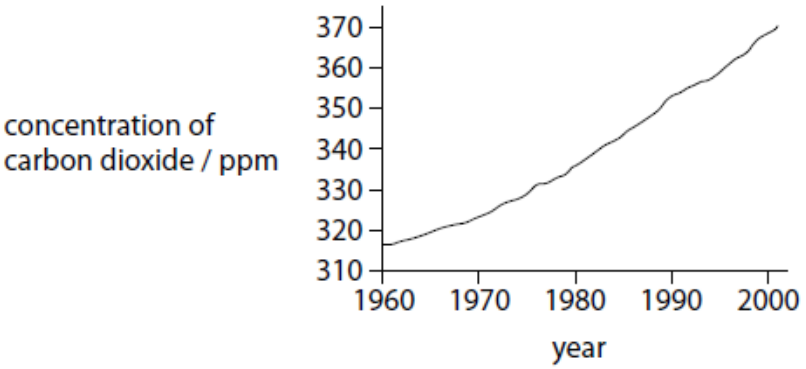


Figure 1

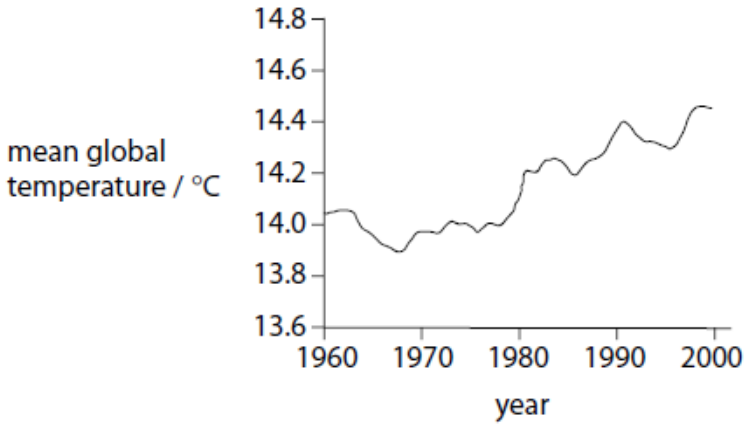


Figure 2

Explain whether these graphs provide evidence that an increase in carbon dioxide is causing the Earth's temperature to rise.

(2)

.....

.....

.....

.....

(Total for question = 2 marks)

(**Q01c 1SC0/2CH, SAM 2016**)

Q26.

The percentage of oxygen in air can be measured using the apparatus shown in Figure 5.

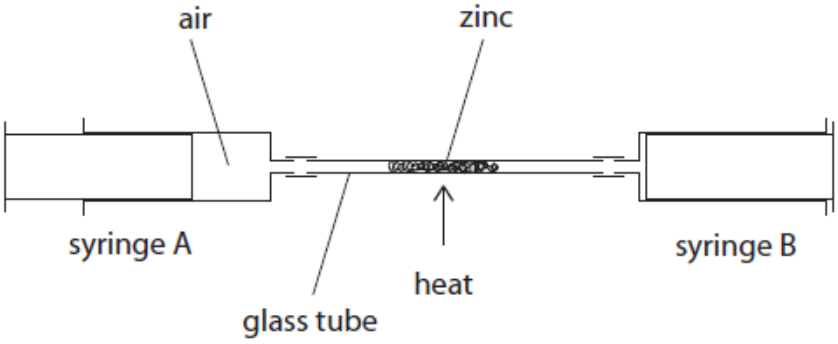


Figure 5

The oxygen in the air reacts with the heated zinc.

(i) Explain **one** change that would be seen during the reaction.

(2)

.....

.....

.....

.....

(ii) Name the product formed when the zinc reacts with oxygen in this experiment.

(1)

.....

(Total for question = 3 marks)

(**QU03c 1SC0/2CF, June 2025**)

Q27.

* Figure 10 shows the relative amounts of three gases in the early atmosphere compared to the composition of today's atmosphere.

gas	relative amount in early atmosphere	composition of today's atmosphere
water vapour	large amount	0% to 4%
carbon dioxide	large amount	less than 0.5%
oxygen	little or none	21%

Figure 10

Natural processes and human activities have altered the relative amounts of these gases in the atmosphere.

Explain how the relative amount of each of the gases in Figure 10 has increased or decreased over time.

(6)

(Total for question = 6 marks)

(**QU06e 1SC0/2CF, June 2019**)

Q28.

* Figure 10 shows the relative amounts of three gases in the early atmosphere compared to the composition of today's atmosphere.

gas	relative amount in early atmosphere	composition of today's atmosphere
water vapour	large amount	0% to 4%
carbon dioxide	large amount	less than 0.5%
oxygen	little or none	21%

Figure 10

Natural processes and human activities have altered the relative amounts of these gases in the atmosphere.

Explain how the relative amount of each of the gases in Figure 10 has increased or decreased over time.

(6)

(Total for question = 6 marks)

(**QU06e 1SC0/2CF, June 2022**)

Q29.

Figure 2 shows the concentration of carbon dioxide in the atmosphere above Hawaii from 1960 to 2010.

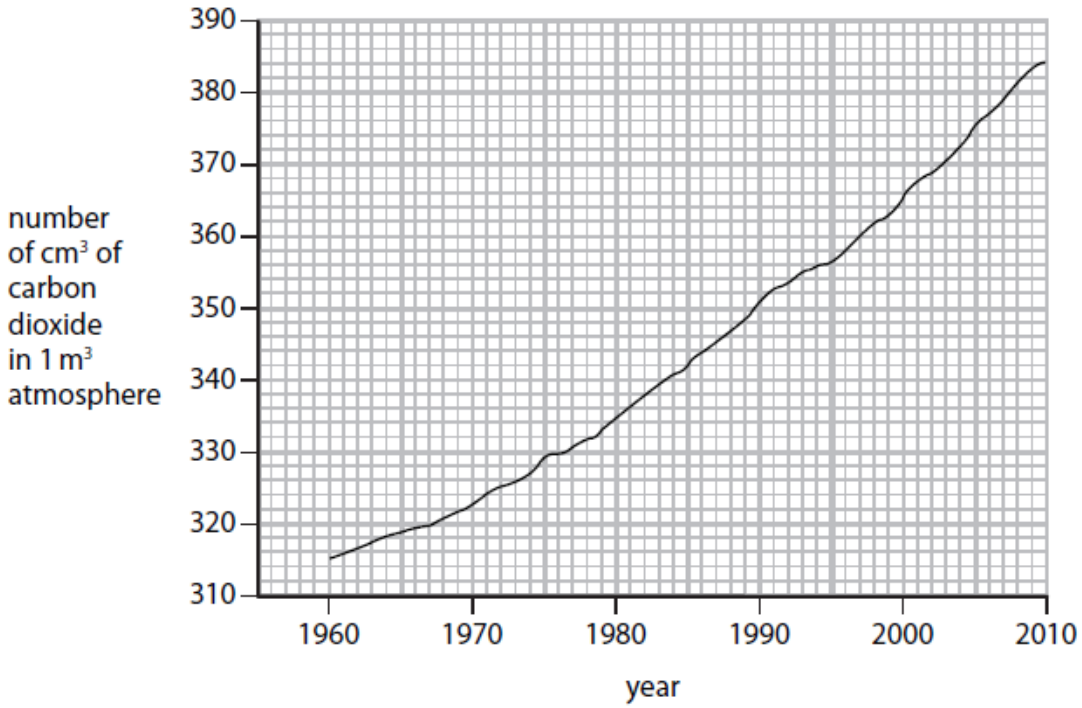


Figure 2

(i) Use the graph to calculate the increase in the volume of carbon dioxide in 1 m^3 of atmosphere from 1960 to 2010.

(2)

increase in volume of carbon dioxide = ... cm^3

(ii) Describe how carbon dioxide is released into today's atmosphere.

(2)

.....

.....

.....

.....

(Total for question = 4 marks)

(**Q01c 1SC0/2CF, SAM 2016**)

Q30.

* Large quantities of methane are used as a fuel.

Figure 11 shows a Bunsen burner.

Methane can be used as fuel for the Bunsen burner.

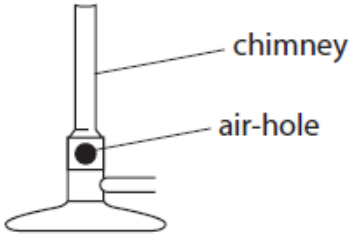


Figure 11

The air-hole on the chimney of the Bunsen burner can be opened and closed.

Explain the effect of opening and closing the air-hole of the Bunsen burner on the products of combustion of methane and the harm that using large quantities of methane as a fuel can cause.

(6)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(Total for question = 6 marks)

(**QU06c 1SC0/2CH, June 2023**)

Q31.

This question is about the atmosphere.

* Figure 16 shows how plant life and the atmosphere of Earth have changed over time.

period of time	plant life	amount of carbon dioxide in atmosphere	amount of oxygen in atmosphere
the earliest Earth	no plant life	very high	none
about 3,500 million years ago	plant life evolved	high	very low
about 10,000 years ago	about 60% of land covered by trees	0.03%	about 21%
today	less than 40% of land covered by trees	0.04%	about 21%

Figure 16

Explain the effect that plant life has had on the Earth's atmosphere and the temperature of the Earth.

You should refer to the information in Figure 16 including

- the plant life
- the amounts of carbon dioxide
- the amounts of oxygen

(Total for question = 6 marks)

(**QU06d 1SC0/2CF, June 2024**)

Q32.

This early atmosphere was hot and contained water vapour.
The atmosphere today contains less water vapour.

Explain what caused the amount of water vapour in the atmosphere to decrease.

(2)

.....

.....

.....

.....

(Total for question = 2 marks)

(**Q01c 1SC0/2CF, Nov 2020**)

Q33.

This question is about oxygen.

The percentage of oxygen in today's atmosphere is greater than the percentage of oxygen in the Earth's early atmosphere.

Explain what caused this change to happen.

(2)

.....

.....

.....

.....

(Total for question = 2 marks)

(**QU05a 1SC0/2CH, June 2022**)

Q34.

P and **Q** are both mixtures of gases.
One has the same composition as the early atmosphere and the other has the same composition as the current atmosphere.

Tests are carried out on gas mixtures **P** and **Q**.

The test for carbon dioxide is to bubble the gas into limewater; if carbon dioxide is present calcium carbonate is formed.

The results of the tests are shown in Figure 4.

test	result with gas mixture P	result with gas mixture Q
bubble gas into limewater	white precipitate forms after 4 minutes	white precipitate forms after 10 seconds
place burning splint into gas mixture	splint continues to burn	splint immediately goes out

Figure 4

Explain, using the data in Figure 4, which gas mixture represents the early atmosphere.

(2)

.....

.....

.....

.....

(Total for question = 2 marks)

(**Q04e 1SC0/2CH, Nov 2020**)

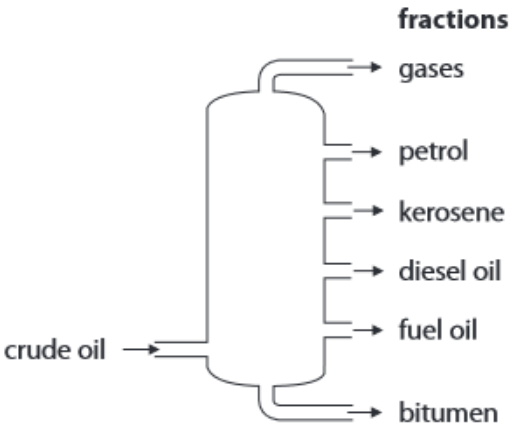
Q35.

Fuels

Crude oil is a mixture of hydrocarbons.

(a) Crude oil is separated into fractions by fractional distillation.

The diagram shows a fractional distillation column and the fractions.



There are trends in the properties of the fractions from the top of the column to the bottom of the column.

Which of the following describes a correct trend from top of the column to the bottom?

Put a cross (☒) in the box to show your answer.

(1)

☒ **A** the boiling points decrease

☒ **B** the ease of ignition decreases

☒ **C** the viscosity decreases

☒ **D** the number of carbon atoms in a molecule decreases

(b) Describe problems caused by one product of the incomplete combustion of a hydrocarbon fuel.

(2)

.....

.....

.....

.....

(c) (i) When fuel oil is burnt, carbon dioxide is produced and released into the atmosphere.

Explain why some people are concerned about the release of large quantities of carbon dioxide into the atmosphere.

(2)

.....

.....

.....

.....

(ii) Fuel oil can contain sulfur as an impurity.

Explain how burning this impurity can cause problems in the environment.

(3)

.....

.....

.....

.....

.....

.....

(d) Crude oil is a source of many fuels.

These fuels are known as fossil fuels.

Describe advantages of replacing fossil fuels with biofuels.

(2)

.....

.....

.....

.....

(Total for question = 10 marks)

(**Q08 1SC0/2CH, June 2014**)

Q36.

Four gases were present in the Earth's early atmosphere.

Figure 1 shows the percentages of these gases thought to have been present.

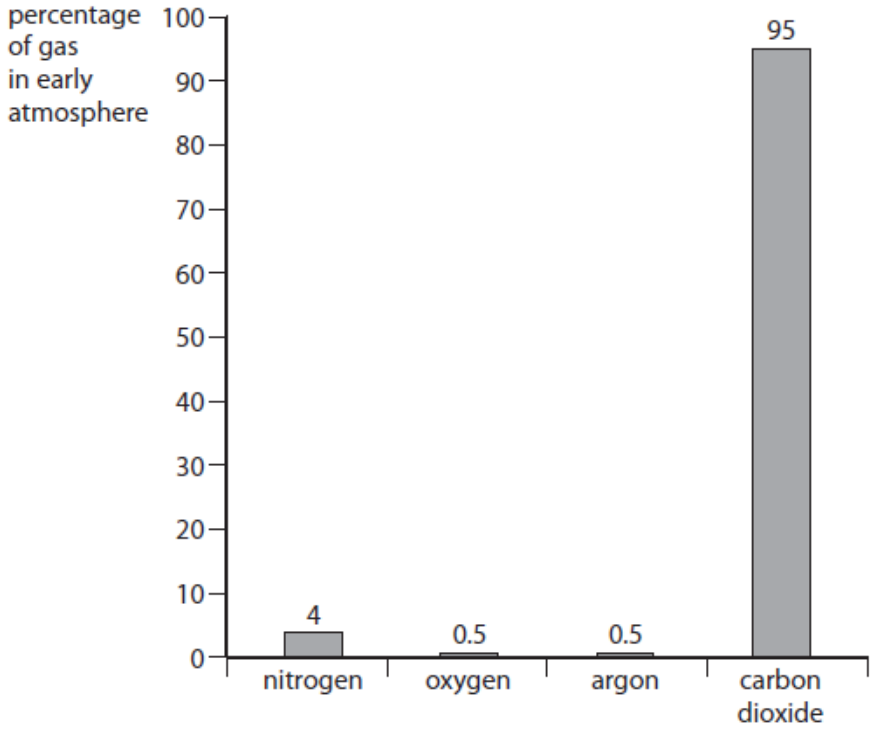


Figure 1

State from where these gases entered the atmosphere.

(1)

.....

(Total for question = 1 mark)

(**Q01a 1SC0/2CF/S2, SAM**)

Q37.

(a) Complete the sentence by putting a cross (☒) in the box next to your answer.

(i) The percentage of carbon dioxide in the Earth's atmosphere today is

(1)

☒ **A** greater than 5%

☒ **B** 4%

☒ **C** 3%

☒ **D** less than 0.5%

(ii) The percentage of carbon dioxide in the Earth's atmosphere today is less than that in the Earth's earliest atmosphere.
Explain what has caused the percentage of carbon dioxide to decrease.

(2)

.....

.....

.....

(iii) Carbon dioxide and other gases in the atmosphere help to keep the Earth warm.
State how these gases keep the Earth warm.

(1)

.....

.....

.....

.....

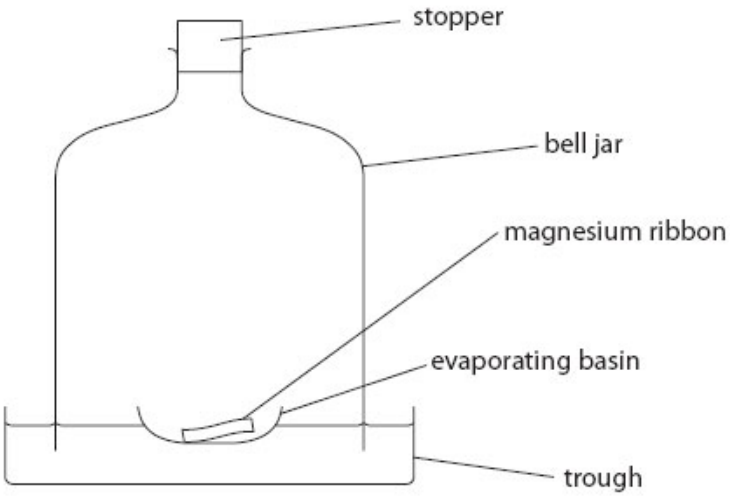
(b) Describe the test to show that a gas is oxygen.

(2)

.....

.....

(c) Magnesium reacts with oxygen to form magnesium oxide.
An excess of magnesium ribbon was placed in an evaporating basin that was floated on water in a trough.
The magnesium ribbon was lit.
A bell jar was placed over the evaporating basin and the stopper inserted to seal the experiment.



When the magnesium flame went out, there was some magnesium left in the basin.
When the apparatus had cooled, the water in the bell jar had risen.

(i) Explain why the water level had risen.

(2)

.....

.....

.....

.....

(ii) At the start of the experiment, the volume of the air in the bell jar was 1000 cm^3.
Assume that 21% of the air by volume is oxygen.
Calculate the volume of gas that was present in the bell jar at the end of the experiment.

(2)

.....

.....

.....

.....

volume of gas = ... cm^3

(d) Metal oxides react with acids to produce salts and water.
Dilute sulfuric acid was added to magnesium oxide.
State the name of the salt formed.

(1)

.....

(Total for Question = 11 marks)

(**Q23 1SC0/2CH, June 2013**)

Q38.

The Earth's early atmosphere was different from that of the Earth's atmosphere today.

The Earth's early atmosphere was formed by

(1)

☒ **A** animals breathing.

☒ **B** global warming.

☒ **C** plants growing.

☒ **D** volcanic activity.

(Total for question = 1 mark)

(**Q01a 1SC0/2CF, SAM 2016**)

Q39.

Give the name of the most common gas in the Earth's **early** atmosphere.

(1)

.....

(Total for question = 1 mark)

(**Q01b 1SC0/2CF, Nov 2020**)

Q40.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

A scientist produced the information in Figure 6 about the Earth's atmosphere and the Earth's average surface temperature.

Earth's atmosphere 3 billion years ago		Earth's atmosphere today	
gas	**%**	**gas**	**%**
carbon dioxide	95	nitrogen	78.00
water vapour	4	oxygen	21.00
all other gases	1	carbon dioxide	0.04
		all other gases including water vapour	0.96
average surface temperature 3 billion years ago		**average surface temperature today**	
above 400 °C		20 °C	

Figure 6

Scientists think that the decrease in percentage of carbon dioxide was partly due to this gas being used in the growth of primitive plants.

(i) Carbon dioxide was used in the growth of primitive plants and produced oxygen.

Give the name of the process in plants that takes in carbon dioxide and produces oxygen.

(1)

.....

(ii) Which of the following tests would show that a gas is oxygen?

(1)

☒ **A** put a lighted splint into the gas and it burns with a pop

☒ **B** put a glowing splint into the gas and it relights

☒ **C** put a lighted splint into the gas and it relights

☒ **D** put a glowing splint into the gas and it burns with a pop