Earth and atmosphere

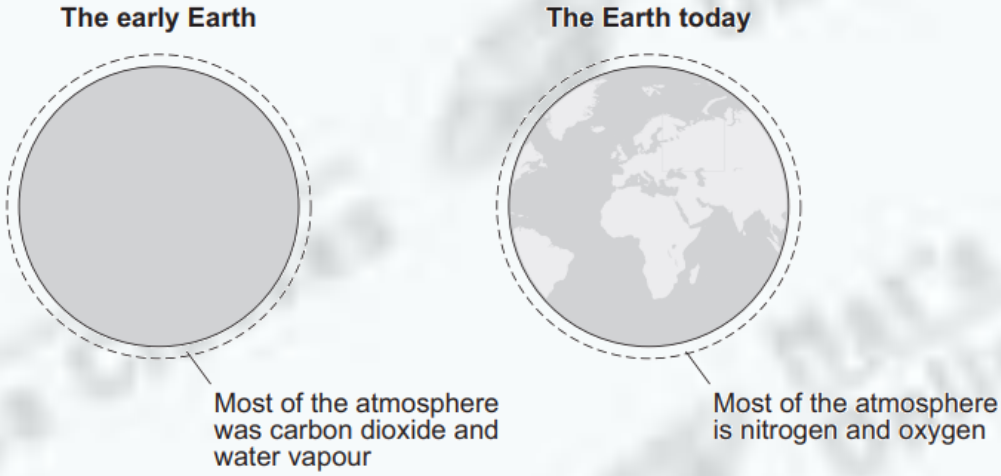
Total mark – 19

Question: 1

1 This question is about gases in the Earth's atmosphere.

Figure 1 shows the atmospheres of the early Earth and of the Earth today.

Figure 1



1 (a) (i) Use the correct answers from the box to complete the sentence.

[2 marks]

dissolved	**evaporated**
locked up	**released**

The amount of carbon dioxide in the early Earth's atmosphere decreased because carbon dioxide was _____ in the oceans and gradually became _____ in sedimentary rocks as carbonates.

1 (a) (ii) Plants and algae used carbon dioxide and water vapour in the early Earth's atmosphere to produce oxygen.

Give the name of this process.

[1 mark]

_____

1 (b) The Earth's atmosphere today contains about 0.04% carbon dioxide.

1 (b) (i) Draw **one** line from each gas to the approximate percentage of gas in the Earth's atmosphere today.

[3 marks]

Gas	Approximate percentage of gas in the Earth's atmosphere today
	1
Argon	10
	20
Nitrogen	
	50
Oxygen	80
	90

1 (b) (ii) Give **one** reason why the amount of carbon dioxide in the Earth's atmosphere has increased in the last 50 years.

[1 mark]

_____

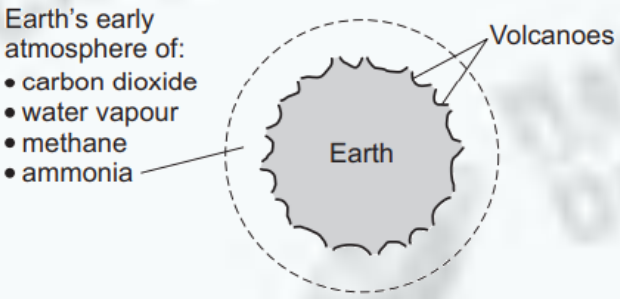
_____

Question: 2

2 This question is about the Earth and its atmosphere.

2 (a) **Figure 4** shows the Earth and its atmosphere billions of years ago.

Figure 4



2 (a) (i) The boiling point of water is 100 °C.

Suggest **one** reason why there was no liquid water on the Earth's surface billions of years ago.

[1 mark]

_____

_____

2 (a) (ii) Complete the sentence.

[1 mark]

On the Earth today, volcanic eruptions happen at the boundaries between

tectonic _____ .

2 (b) The Earth's atmosphere today contains nitrogen, oxygen, argon, carbon dioxide and other gases.

2 (b) (i) Draw **one** line from each substance to a description of the substance.

[3 marks]

Substance	Description of the substance
air	compound
carbon dioxide	element
argon	hydrocarbon
	metal
	mixture

2 (b) (ii) Which gas in the Earth's atmosphere is used when hydrocarbons burn?

[1 mark]

Tick (✓) **one** box.

- carbon dioxide ☐
- nitrogen ☐
- oxygen ☐

2 (b) (iii) What percentage of the Earth's atmosphere is nitrogen?

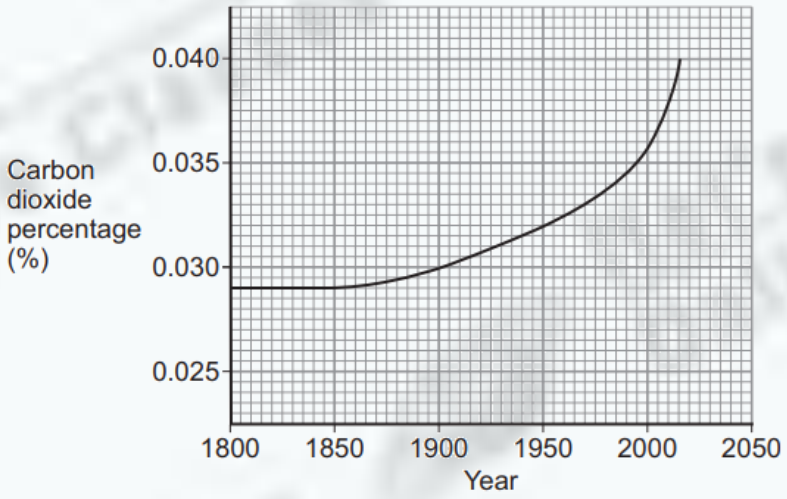
[1 mark]

Tick (✓) **one** box.

- about 40% ☐
- about 60% ☐
- about 80% ☐

2 (c) **Figure 5** shows the carbon dioxide percentage (%) in the Earth's atmosphere since the year 1800.

Figure 5



2 (c) (i) What was the carbon dioxide percentage in 1900?

[1 mark]

_____ %

2 (c) (ii) Describe, in detail, how the carbon dioxide percentage changed from 1900 to 2015.

[2 marks]

_____

_____