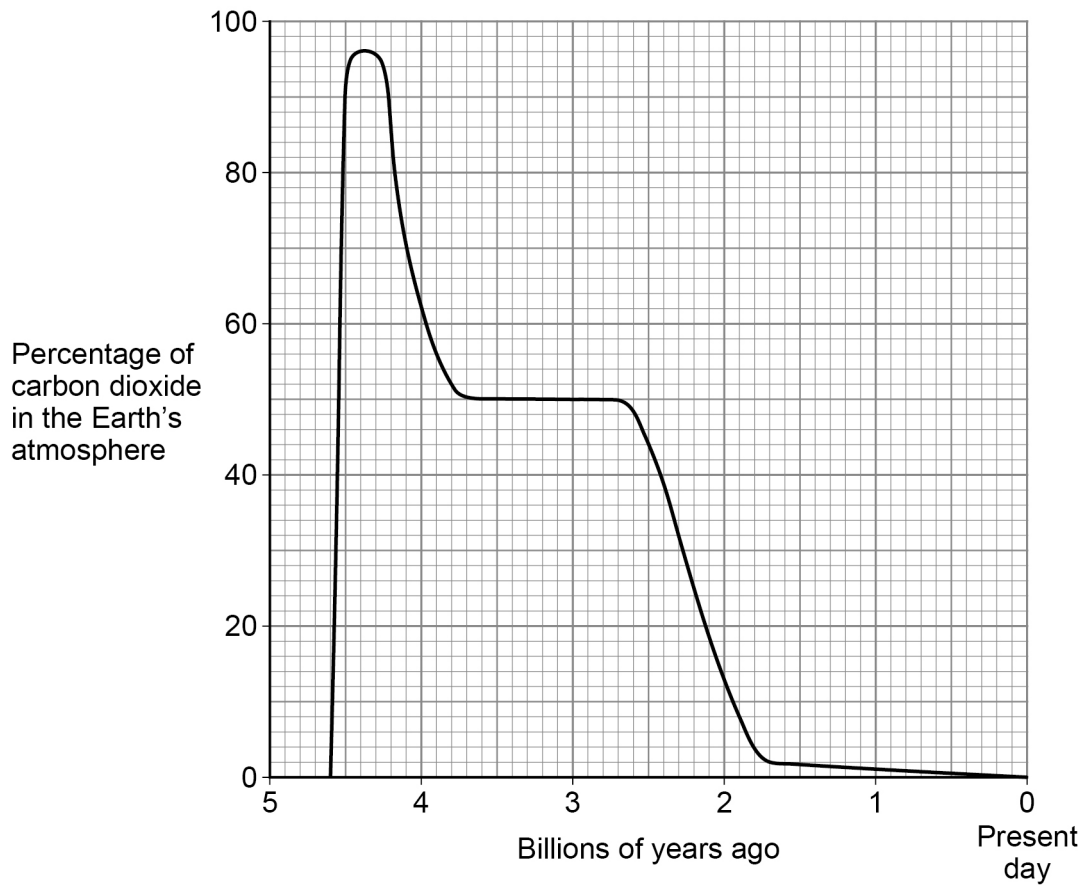


0 2

This question is about carbon dioxide in the Earth's atmosphere.

Figure 2 shows how the percentage of carbon dioxide in the Earth's atmosphere has changed over 4.6 billion years.

Figure 2



0 2

1

What was the highest percentage of carbon dioxide in the Earth's atmosphere?

Use **Figure 2**.

[1 mark]

Highest percentage = _____ %

Turn over ►



0 2 . 2

The percentage of carbon dioxide in the atmosphere has decreased since Earth's early atmosphere.

Which **two** processes have decreased the percentage of carbon dioxide in the Earth's atmosphere?

[2 marks]

Tick (✓) **two** boxes.

Combustion of fuels

☐

Formation of sedimentary rocks

☐

Photosynthesis

☐

Volcanic activity

☐**0 2 . 3**

The total amount of carbon dioxide emitted over the life cycle of a product can be measured.

What name is given to the total amount of carbon dioxide emitted during the life cycle of a product?

[1 mark]

Tick (✓) **one** box.

Carbon footprint

☐

Global dimming

☐

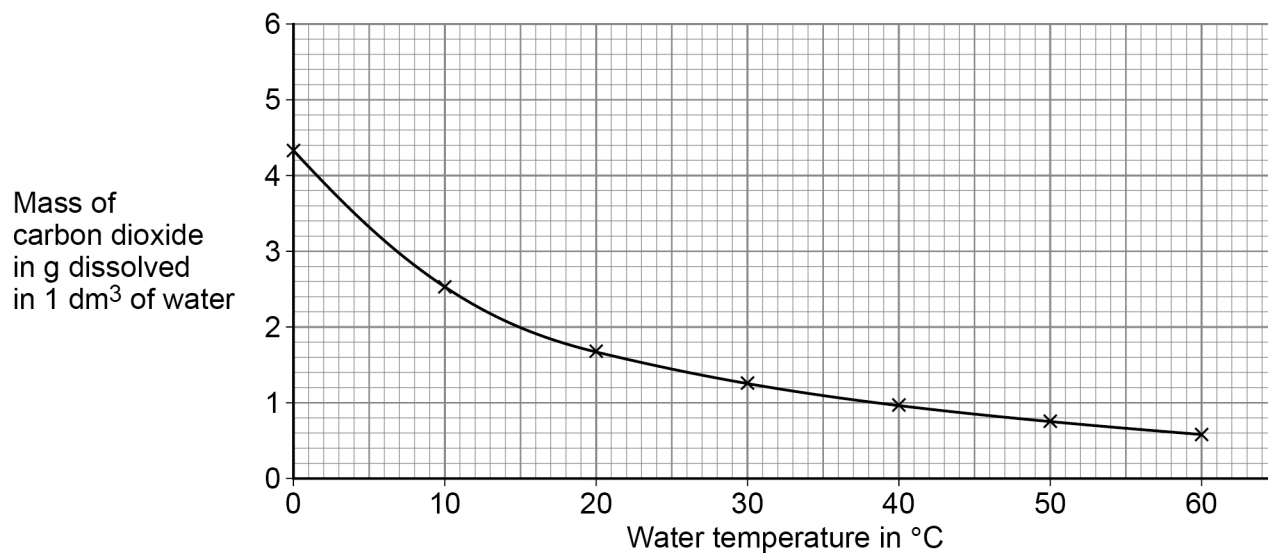
Greenhouse effect

☐

Carbon dioxide dissolves in water.

Figure 3 shows the mass of carbon dioxide dissolved in water at different temperatures.

Figure 3



0 2 . 4 Complete **Table 1**.

Use **Figure 3**.

[2 marks]

Table 1

Water temperature in °C	Mass of carbon dioxide in g dissolved in 1 dm ³ of water
5	
15	

0 2 . 5 Calculate the difference in the mass of carbon dioxide dissolved in 1 dm³ of water at 5 °C and at 15 °C

Use **Table 1**.

[1 mark]

Mass = _____ g

Turn over ►



0 2 . 6

Carbon dioxide is a greenhouse gas.

The greenhouse effect happens in four stages.

The four stages are:

Stage **A** Carbon dioxide stops longer wavelength radiation escapingStage **B** Radiation is absorbed by the EarthStage **C** Longer wavelength radiation is emittedStage **D** Shorter wavelength radiation enters the atmosphere.What is the correct order of stages **A**, **B**, **C** and **D**?**[1 mark]**Tick (✓) **one** box.**C, A, B, D**☐**C, D, B, A**☐**D, B, C, A**☐**D, C, B, A**☐

0 2 . 7

Changes in the percentage of carbon dioxide in the Earth's atmosphere cause climate change.

Give **two** effects of climate change.**[2 marks]**

1 _____

2 _____

10



Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.1	96 (%)	allow a value in the range 95–97 (%)	1	AO2 5.9.1.1 5.9.1.2 5.9.1.4
02.2	formation of sedimentary rocks photosynthesis		1 1	AO1 5.9.1.1 5.9.1.2 5.9.1.3 5.9.1.4 5.9.2.2
02.3	carbon footprint		1	AO1 5.9.2.4
02.4	3.3 (g) 2 (g)	allow a value in the range 3.2 – 3.4 (g) allow a value in the range 1.9 – 2.1 (g)	1 1	AO2 5.9.1.2
02.5	(3.3 – 2 =) 1.3 (g)	allow ecf from question 02.4	1	AO2 5.9.1.2
02.6	D B C A		1	AO1 5.9.2.1

02.7	<p>any two from:</p> <ul style="list-style-type: none"> • rising sea levels • melting ice (caps) / glaciers • agricultural problems • extremes of weather • (coastal) flooding / erosion • drought • forest fires • animal habitats change / lost 	<p>allow extinction of species</p> <p>allow global warming</p>	2	AO1 5.9.2.3
Total			10	