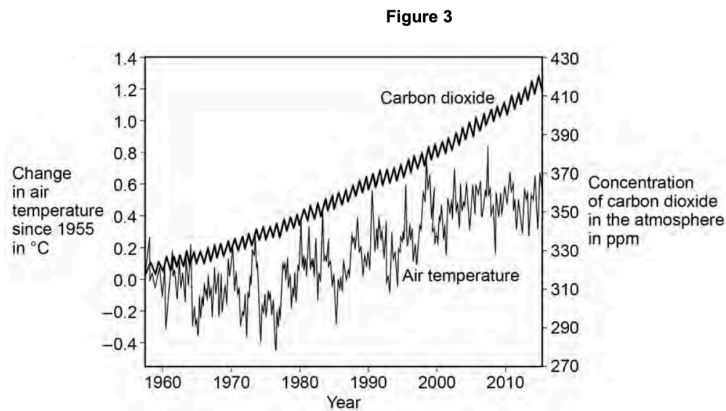


(Global warming and maintaining biodiversity)

Q1.a)(2018)

Many scientists think that global air temperature is related to the concentration of carbon dioxide in the atmosphere.

Figure 3 shows changes in global air temperature and changes in the concentration of carbon dioxide in the atmosphere.



Complete **Table 1**.

Use information from **Figure 3**.

[2 marks]

Choose answers from the box.

You may use each answer once, more than once or not at all.

constant	decreasing	increasing
----------	------------	------------

Table 1

	1960 – 1977	1977 – 2003	2003 – 2015
Trend in carbon dioxide concentration	Increasing		
Trend in air temperature			

Q1.b)(2018)

Many scientists think that an increase in carbon dioxide concentration in the atmosphere causes an increase in air temperature.

How would an increase in the concentration of carbon dioxide in the atmosphere cause an increase in air temperature?

[1 mark]

Q1.c)(2018)

Evaluate evidence for and against the theory that an increase in the concentration of carbon dioxide in the atmosphere causes an increase in air temperature.

Use data from **Figure 3** and your own knowledge.

[4 marks]

Q1.d)(2018)

In each year, the concentration of carbon dioxide in the atmosphere is higher in the winter than in the summer.

Give **one** human activity that could cause the higher concentration of carbon dioxide in the winter.

[1 mark]

Q1.e)(2018)

Give **one** biological process that could cause the lower concentration of carbon dioxide in the summer.

[1 mark]

Q2.(2018)

Give **two** possible effects of an increase in global air temperature on living organisms.

[2 marks]

1

2

Q3.a)(2023)

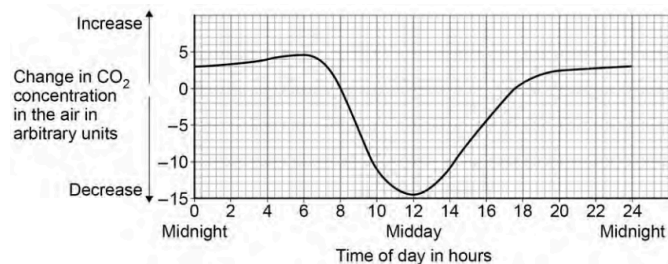
] This question is about the effects of deforestation and agriculture.

The processes of photosynthesis and respiration affect the carbon dioxide concentration in the air.

Figure 9 shows the changes in the carbon dioxide concentration in the air in a tropical rainforest during one day.

The data are mean daily values over a whole year.

Figure 9



Explain what causes the changes in the carbon dioxide concentration in the air:

- from 0 to 6 hours
- from 8 to 12 hours.

Use information from **Figure 9**.

[4 marks]

0 to 6 hours _____

8 to 12 hours _____

Q3.b)(2023)

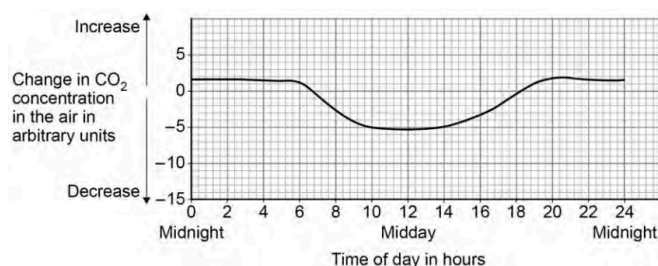
An area of rainforest is cut down and replaced with a field of maize plants.

Only one crop of maize is grown each year.

Figure 10 shows the changes in the carbon dioxide concentration in the air in the field of maize during one day.

The data are mean daily values over the 6-month growing period.

Figure 10



The maize grows for only 6 months of the year.

Explain why replacing rainforest with maize will increase the carbon dioxide concentration in the air after one year.

Use information from **Figure 9** and **Figure 10**.

[2 marks]
