



Oxford Cambridge and RSA

GCSE Chemistry B (Twenty First Century Science)
J258/02 Depth in chemistry (Foundation Tier)

Question Set 19

1

Over the last 20 years, there have been a series of agreements between governments to limit the emission of greenhouse gases. These gases include carbon dioxide, methane and nitrous oxides.

(a) **Table 8.1** shows some measurements of the concentrations of these gases in the atmosphere now.

Gas	Concentration in the atmosphere
carbon dioxide	0.04%
methane	1800 ppb
nitrous oxides	1400 ppb

Table 8.1

The units used to measure the concentration of the gases are different.

(i) Calculate the concentration of carbon dioxide, in ppb.

1% = 10 000 000 ppb (parts per billion)

Concentration = ppb [2]

(ii) Governments think that reducing emissions of carbon dioxide will have a bigger effect on the environment, than reducing emissions of the other gases.

Use the data in **Table 8.1** to explain why they are right. [2]

(b) The first major agreement between countries was the 1997 Kyoto Protocol.

The graph in **Fig. 8.1** shows the concentration of some greenhouse gases in the atmosphere before the Kyoto Protocol was introduced.

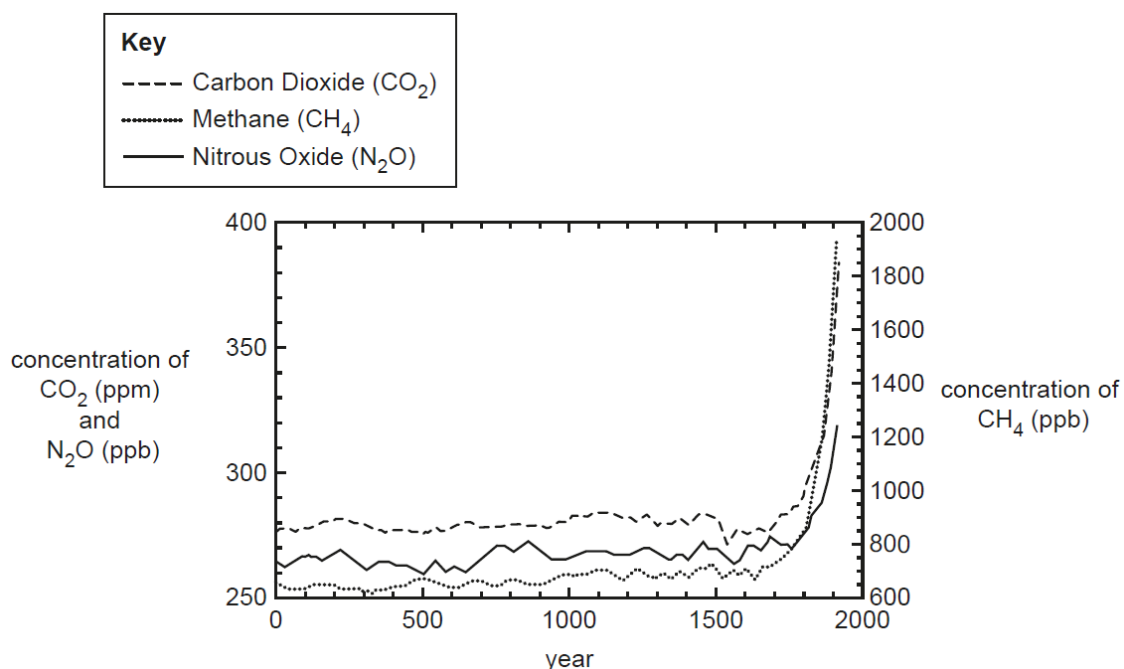


Fig. 8.1

(i) Which statements about the data in **Fig. 8.1** are **true** and which are **false**?

Tick (✓) **one** box in each row.

Statement	True	False
For each gas the concentration remained approximately constant for 1500 years.		
The concentration of methane is usually higher than the concentration of nitrous oxide.		
The concentration of carbon dioxide is measured in ppb.		
The concentration of all three gases has more than doubled since 1500 years ago.		

[3]

(ii) Amir makes this comment about the graph.

Amir
There are general correlations on the graph but annual concentrations do not show close correlations.



Do you agree with Amir?

Yes

No

Use the graph in **Fig. 8.1** to explain your answer.

[2]

Total Marks for Question Set 19: 9

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