

Materials and the Earth

Lesson 11: Evidence for Climate Change

Science

Chemistry - Key Stage 3

Miss Willett



What have you learnt already?

1. What is the proper word for 'heat'?
2. Which greenhouse gas is produced by farming?
3. What is a hydrocarbon?



Consequences of global warming

Link the effects!

Rising sea levels

Water stress

Destruction of natural environment

Changes to rainfall patterns

Loss of habitat

Species extinction

Changes to weather extremes

Temperature stress

Food security damaged



Consequences of global warming

Answer the following questions:

1. **Identify** 3 potential consequences of global warming
2. **Describe** consequences of global warming specific to the arctic circle
3. **Explain** how global warming can have an effect on food security



Consequences of global warming

Answer space:



What causes the greenhouse effect?

True or false?

Eunice Newton Foote was from a large family

Eunice Newton Foote was recognised by the Edinburgh Scientific journal

Eunice Newton Foote was instrumental in ensuring rights for scientists



Eunice Newton Foote

Answer the following questions:

1. When was Eunice Newton Foote born?
2. Which important feminist document did Eunice contribute to?
3. What important link did Eunice make?
4. Why wasn't her work recognised?
5. When did Eunice's findings re-emerge?



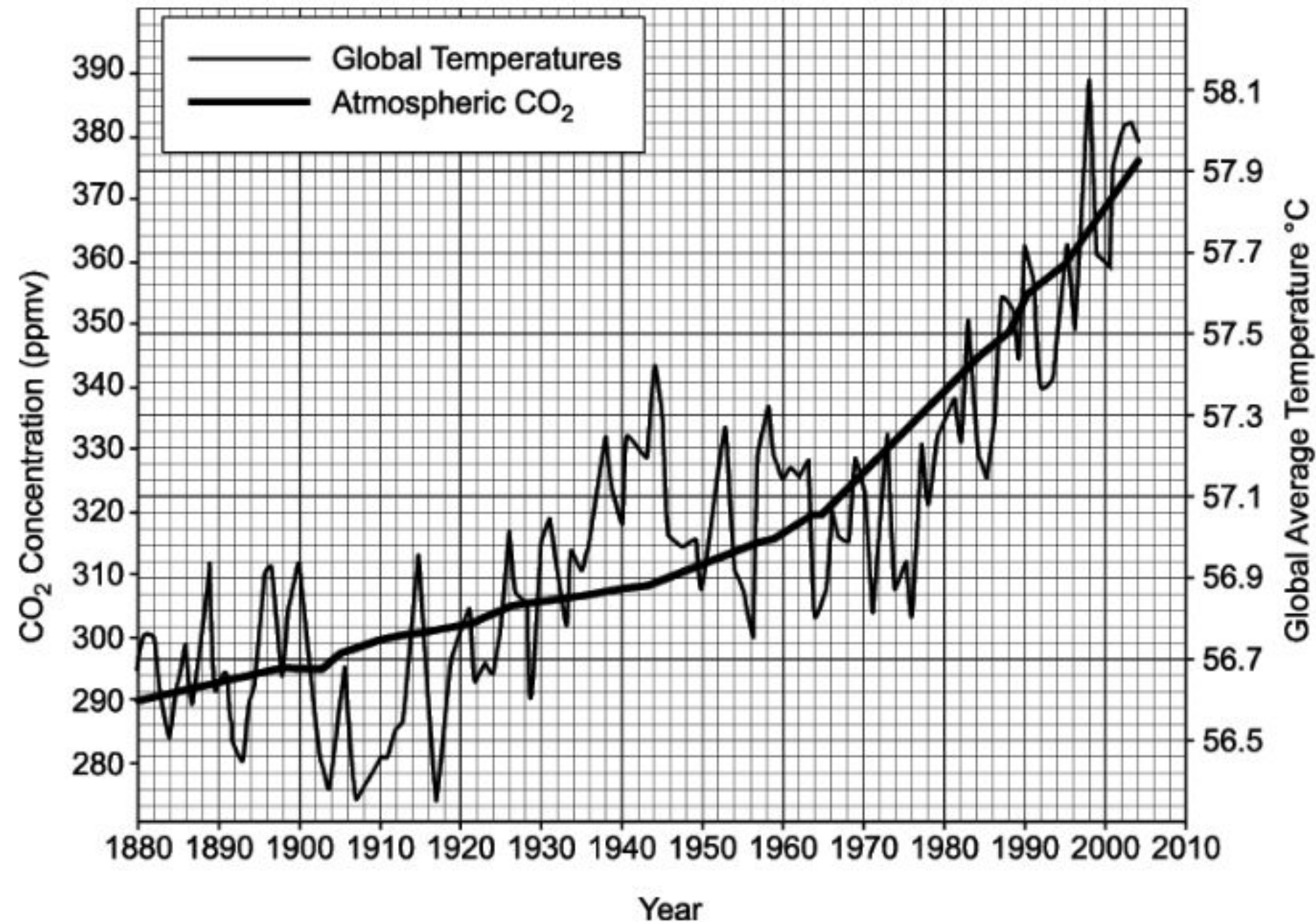
Eunice Newton Foote

Answer space:



Evidence for climate change

Use the graph to answer



Identify the concentration of carbon dioxide in 1930

Describe the relationship shown on the graph

Evaluate whether we should try to reduce carbon dioxide emissions

Image: OCR; specimen J250/04



Evidence for climate change

Answer space:

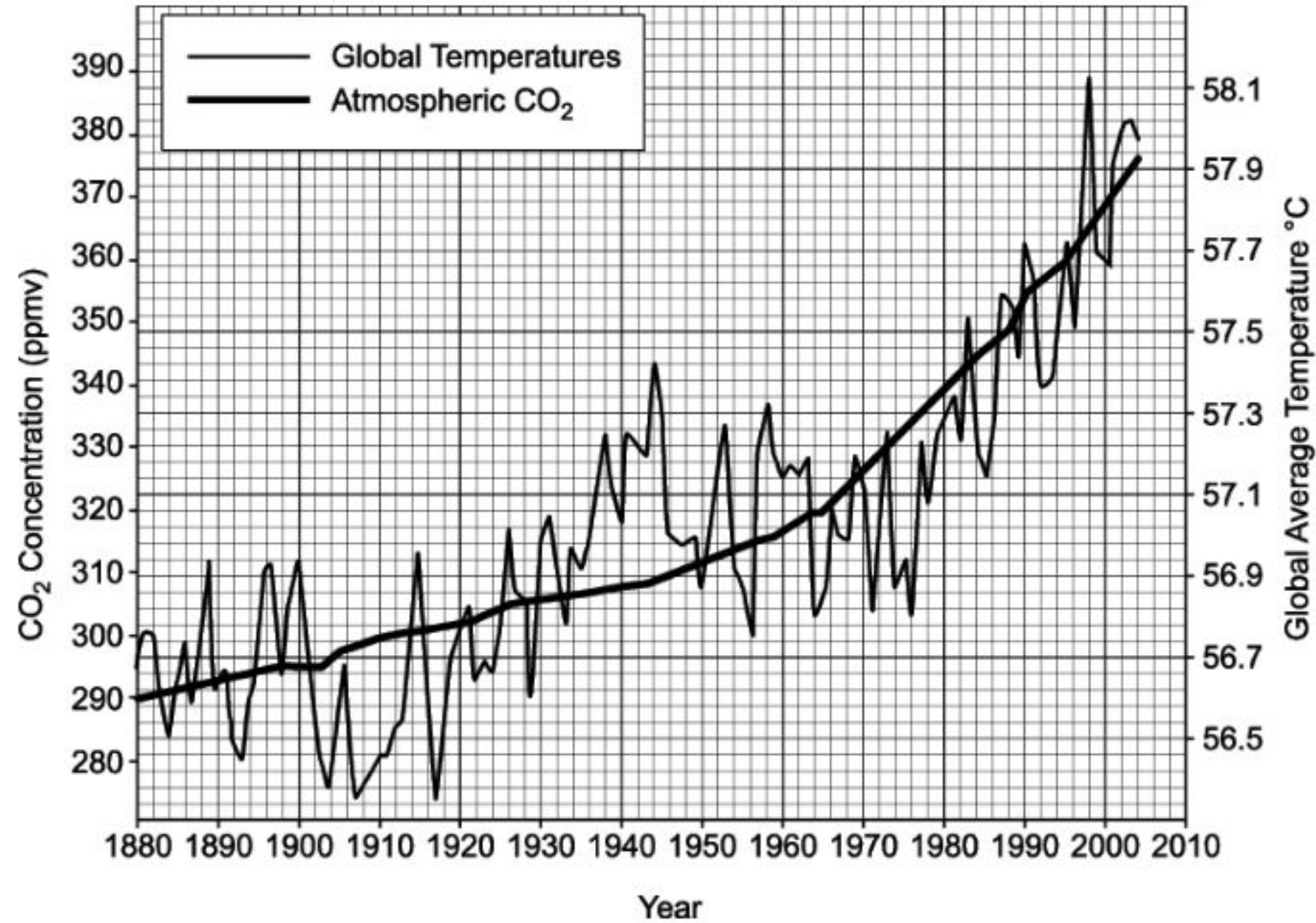


Image: OCR; specimen J250/04



Climate change

For or against?

Ice core data shows that, millions of years ago, global temperature rose BEFORE CO₂ levels

Weather stations tend to be in urban areas, not evenly across the globe

Computer models have become more sophisticated and can now simulate biological, chemical and physical conditions



Climate change controversy

Complete the sentence:

- Climate change data is difficult to analyse and predict because...

THINK! What do you need for evidence to be trusted? Is this possible? Can you ever guarantee a link?

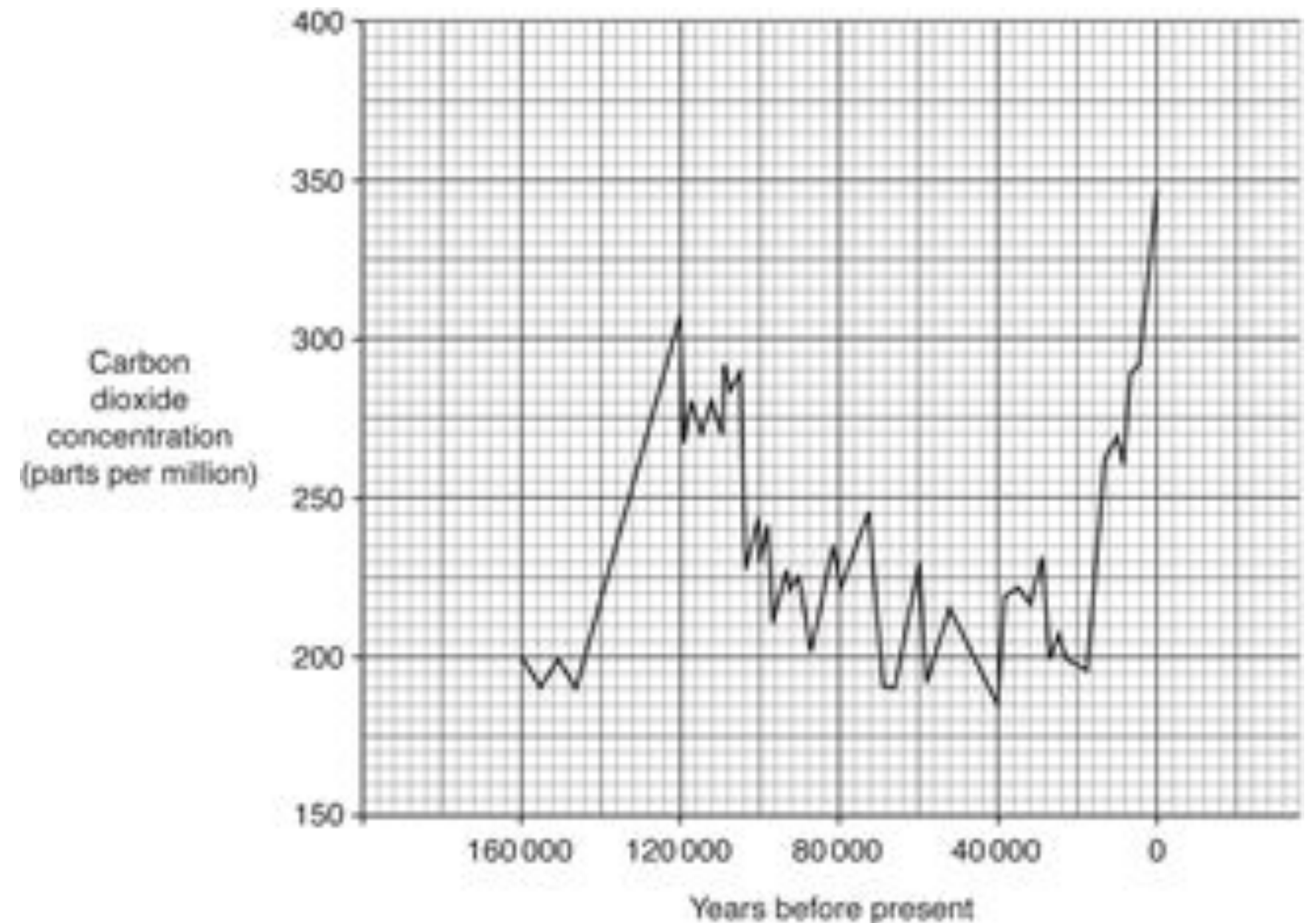


Exam practice:

The graph shows how carbon dioxide levels in the atmosphere have changed during the last 160 000 years.

- i. Read this statement: **Carbon dioxide levels in the atmosphere are rising out of control.**

What evidence is there in the graph for and against this statement?



Source: OCR, June 2019, J250/08

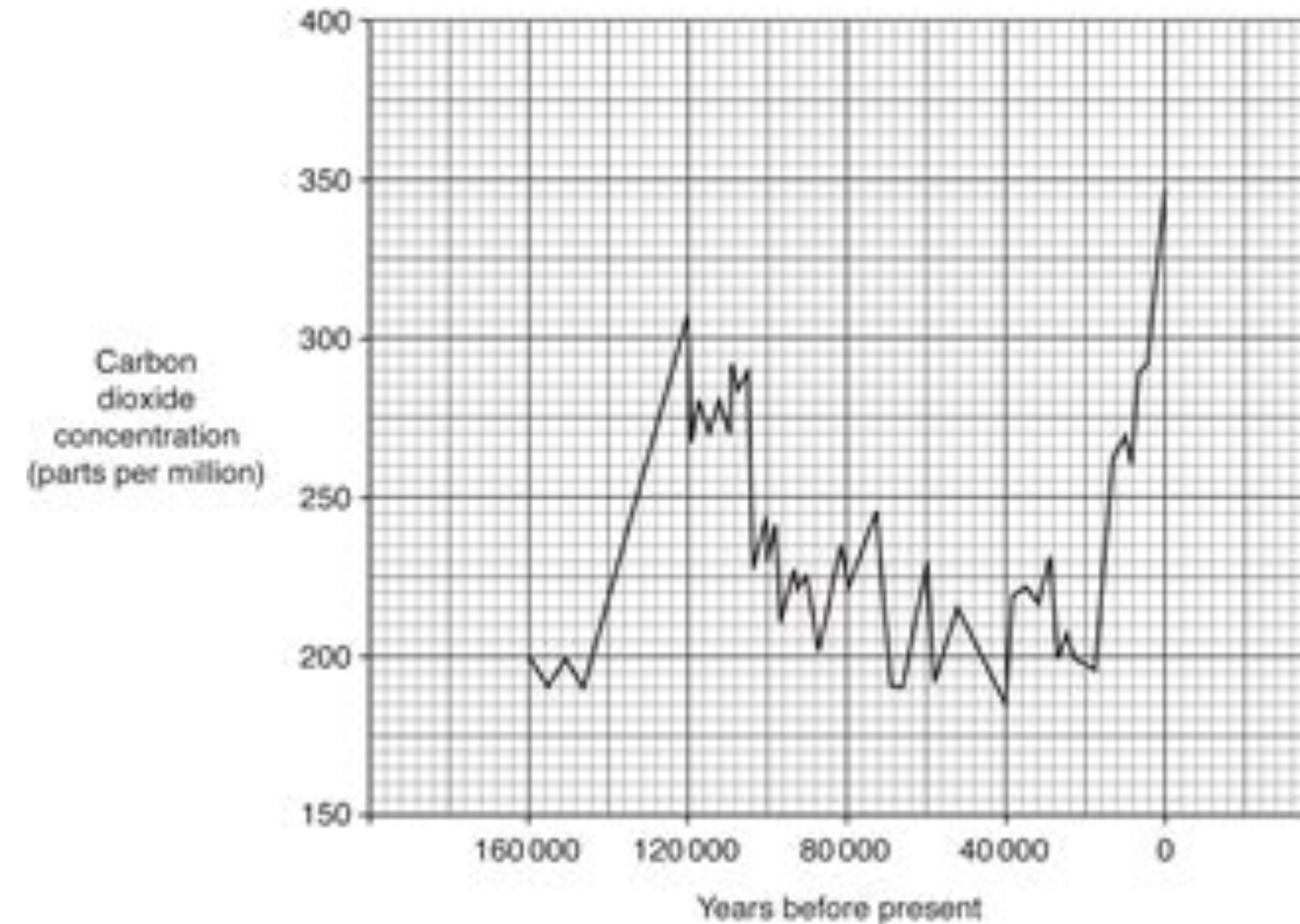


Exam practice:

ii. Look at the section of the graph for the last 20 000 years.

What conclusions can be made about the release of carbon dioxide into the atmosphere and also its removal from the atmosphere during the last 20 000 years?

iii. Describe how human activity has contributed to the trends in the graph and suggest how this activity could affect biodiversity.



Source: OCR, June 2019, J250/08



Exam practice:

Answer space:



Exam practice:

Answer space:

