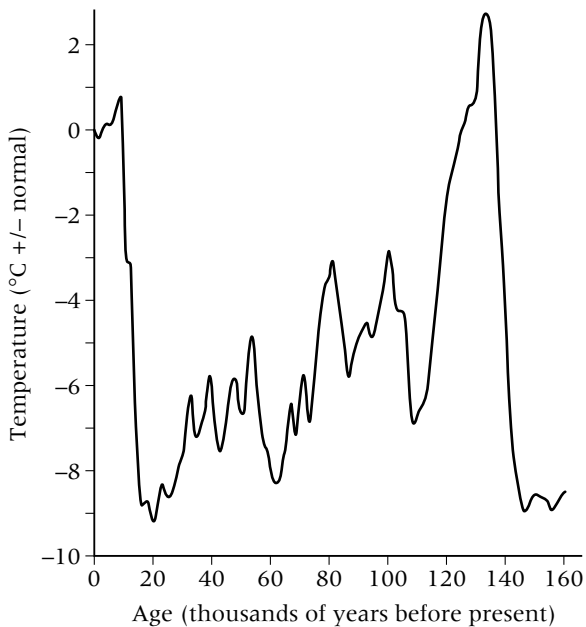
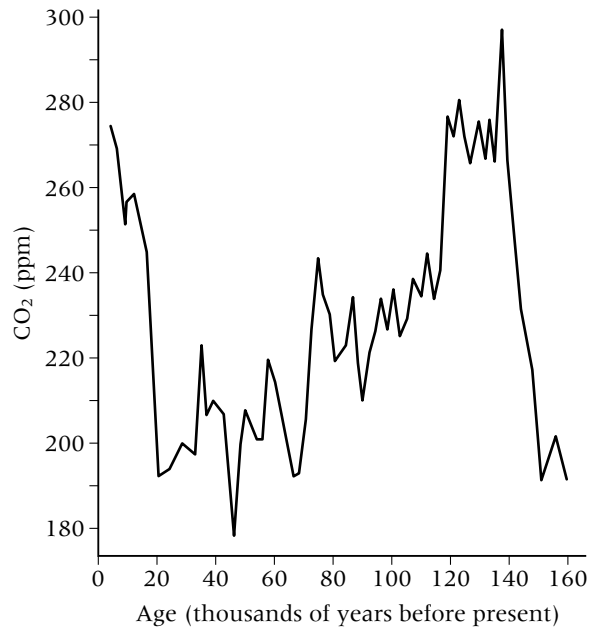


The climate of the Earth has gradually changed over millions of years.



Graph 1: Mean world temperatures over the last 160 000 years.



Graph 2: Mean world carbon dioxide levels over the last 160 000 years.

We are currently in a warmer period during an ice age. The term 'ice age' is used to describe generally cool periods of the Earth's history. These can last hundreds of millions of years, and during these times large areas of the Earth are covered in sheets of ice (glaciers). At present these glaciers are only found in certain areas, like the North and South Poles. However, about 160 000 years ago, the glaciers covered most of the Earth. Over the last 2 million years there have been 20 glacial advances and retreats.

These changes in temperature cannot be linked to human activity or pollution. However, look at the graphs above, which shows carbon dioxide levels over the last 160 000 years. Can you see a link between the two graphs?



- 1 Explain what Graph 1 tells us about the Earth's mean temperatures over the last 160 000 years.
- 2 Explain what Graph 2 tells us about the carbon dioxide levels over the last 160 000 years.
- 3 Describe the link between the two graphs.
- 4 Do you think changes in temperature cause changes in carbon dioxide levels, or do changes in carbon dioxide levels cause changes in temperature? Can you be sure which it is?
- 5 Give one reason why scientists cannot be sure if global warming will occur.



knowledge, considering