

APOLLO

Climate change

HL

Biology

First assessment 2025

5 questions | questions

40. What is the main driver of contemporary climate change?

- A. The burning of fossil fuels, releasing greenhouse gases into the atmosphere
 - B. Natural variability in solar radiation, causing periodic shifts in temperature
 - C. Ocean currents regulating heat distribution, influencing weather patterns
 - D. Volcanic eruptions heating the atmosphere
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- 40.** What is a consequence of ocean water having a very high temperature?
- A. Decreased bleaching of coral reefs
 - B. Increased production of oxygen
 - C. Increase in energy flow through food chains
 - D. Reduced nutrient upwelling to the surface
-

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8. What is an advantage of free-air carbon dioxide enrichment experiments (FACE)?
- A. The carbon dioxide uptake by plants is controlled.
 - B. Temperature can be controlled.
 - C. Water can be controlled.
 - D. Data can more accurately represent future rates of photosynthesis.

Turn over

Section A

Answer **all** questions. Answers must be written within the answer boxes provided.

2. Average human internal (core) body temperature is 36.4 °C, with slight variations between day and night. The average surface temperature of the Earth in the 20th century was 13.9 °C. It has now risen to 14.8 °C.

(a) (i) Outline **one** change that happens in the human body in response to a rise in body temperature above 36.4 °C. [1]

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(ii) Identify with a reason whether this response is positive or negative feedback. [1]

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(b) Explain how the burning of fossil fuels has contributed to the increase in the Earth's temperature. [2]

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(c) Melting polar ice due to global warming is reducing reflection of sunlight from the Earth. Identify with a reason whether this will result in positive or negative feedback. [1]

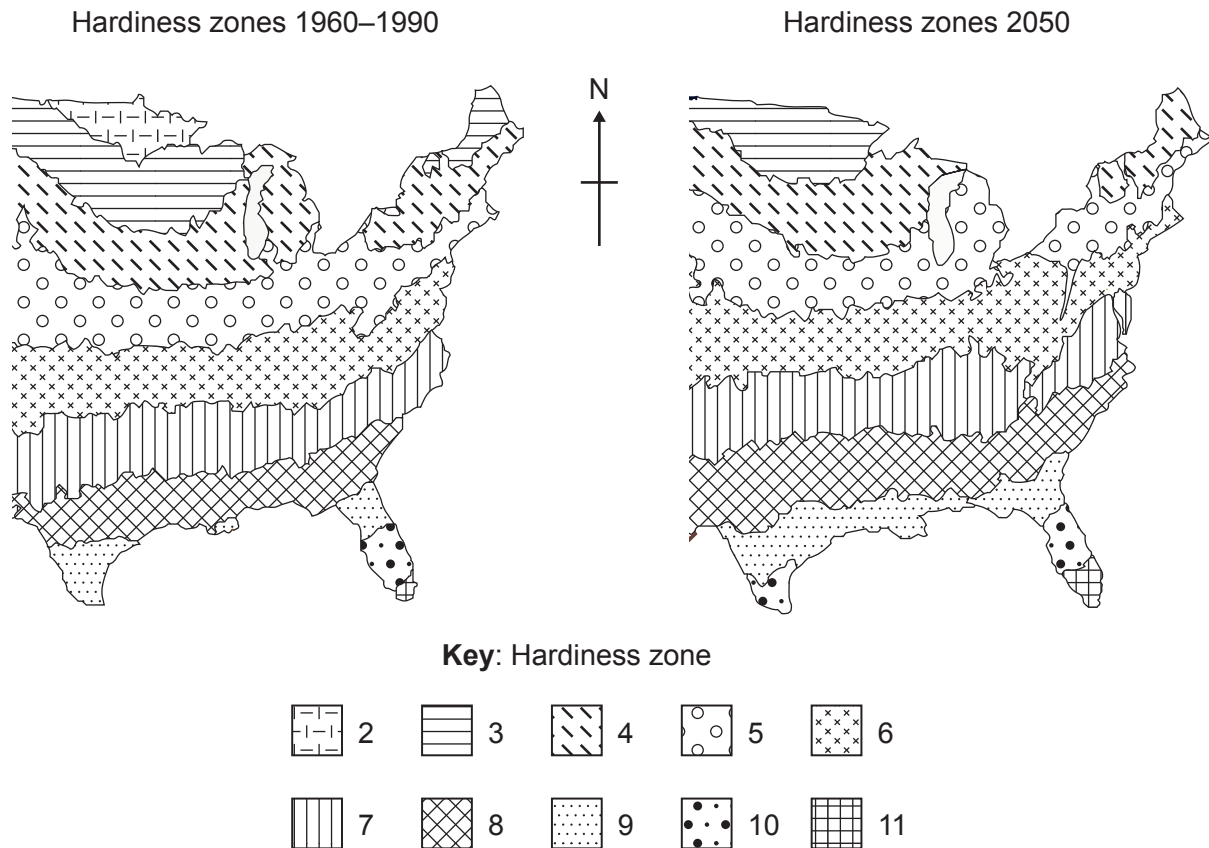
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Turn over

40. The data shows how the hardiness zones in part of North America are predicted to change over the next 25 years. A hardiness zone is an area that has a certain average annual minimum temperature, a factor relevant to the survival of many plants. The lower the number, the more cold-resistant the plants must be.



What is a likely consequence of this change for tree species?

- A. Tree species will spread northwards as climate changes.
- B. Tree species that are not cold-resistant will decline.
- C. There will be no change in the distribution of the tree species.
- D. Tree species that currently live in the north will outcompete other tree species.

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