

Exploring the Frozen Frontiers: The Polar Regions

Learning objective: To identify, describe, and compare the key physical features and climates of the Arctic and the Antarctic.

Read the text carefully, then answer the questions below. Use full sentences to show your understanding.

Finn the dolphin has spent his life mapping the world's oceans, but even he finds the Polar Regions truly extraordinary. The Arctic, located at the Earth's northernmost point, consists of a vast, frozen ocean surrounded by treeless tundra. Beneath the surface, the ground is often frozen solid, known as permafrost. In contrast, the Antarctic at the South Pole is a massive, ice-covered continent. It is the coldest, windiest, and driest place on our planet, boasting mountain ranges and massive glaciers that move slowly toward the sea.

While the Arctic is home to diverse wildlife like polar bears and arctic foxes, the Antarctic is primarily the domain of penguins and seals. Both regions face the challenges of extreme temperatures and the 'midnight sun,' where the sun stays visible for 24 hours during summer months. Scientists like Nova the owl study these environments to understand how the climate is changing. These regions are vital to our world's health, acting like a giant refrigerator that helps regulate global weather patterns. Protecting these fragile, icy frontiers is essential for the future of our planet's biodiversity.

Word bank: Arctic · Antarctic · glacier · tundra · permafrost · habitat · biodiversity · extremity

1. Identify two key physical differences between the Arctic and the Antarctic mentioned in the text. (2 marks)

2. According to the passage, what is 'permafrost'? (1 mark)

3. Why might animals in the Arctic and Antarctic need specific physical adaptations to survive? (2 marks)

4. Explain why the author describes the Polar Regions as a 'giant refrigerator' for the Earth. (2 marks)

5. Do you think it is more important to protect the Arctic or the Antarctic? Justify your answer using evidence from the text. (3 marks)

Draw: Draw a split-screen illustration showing the Arctic on the left and the Antarctic on the right. Include one animal for each region and label the physical features like glaciers or tundra.



Extension challenge: Research the 'midnight sun' phenomenon. Write a short diary entry from the perspective of an explorer experiencing 24 hours of daylight. Then, compare and contrast the challenges of living in the Polar Regions versus living in the UK. What might happen to global sea levels if the Antarctic glaciers melted entirely?