

Hemingbrough Geography Curriculum

Theme: Polar Biomes

Phase: Upper Key Stage Two

Year Group: 5

Strand: Locational Knowledge / Human & Physical Geography

By the end of the theme I should be able to:

- describe and understand rivers, mountains, climate zones, biomes and vegetation belts, & natural resources: energy, food, minerals and water
- understand and recognise human geography: settlement & the distribution of natural resources: energy, food, minerals & water.
- locate the counties, using maps to focus on environmental regions, physical and human characteristics

In Year 1 & 2 I should already have learned to:

name & locate the 7 continents and 5 oceans.
 name hot and cold places on a map of the world, incl. North & South Poles

In Year 3 & 4 I should have already learned:

- the position and significance of the Northern and Southern Hemisphere, and the Arctic and Antarctic Circle;
- the features of rivers, mountains, earthquakes and the water cycle.

1. Can you describe what a biome is and describe the polar biome?

What is a Polar Biome?

An environment which is cold and dry all year round and is 99% covered by ice, such as **Antarctica**.



LANDSCAPE

The ground is frozen. The summer is very short.

CLIMATE

Long cold winters, with annual temperatures mostly below freezing.

Polar areas are often windy, with very little precipitation.

Most plants are not able to grow their roots beneath the top soil or receive enough nutrients from the soil to sustain their growth.

Plants that are usually short and sprawling



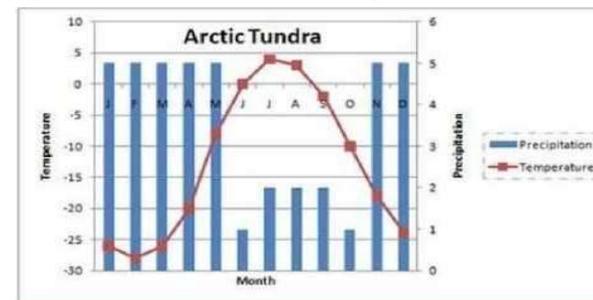
2. Can you describe the human and physical features of the polar regions?

Features of the Arctic and Antarctica

Human features	Physical features
<ul style="list-style-type: none"> • Inuit settlements and culture (Ellesmere Island) • Research stations (the McMurdo station – Antarctic) • The Antarctic Treaty • Polar expeditions • Sustainable tourism - Svalbard • Melting ice and global warming 	<ul style="list-style-type: none"> • Permafrost and the Arctic Tundra • Glaciers and icebergs in the Arctic • Antarctic ice sheet (largest on Earth) • Animals (penguins, polar bears, whales, Arctic Fox) • Mount Vinson (highest mountain on Antarctica) • Weather extremes • Victoria Land (Labryinth Flatlands and Transantarctic mountains)

4. Can you describe a conclusion you have drawn from the data you have analysed in this unit?

3. Can you describe what causes climate change and how climate change affects the polar regions?



How is climate change affecting the polar regions?

Due to climate change, the polar ice caps are melting as the regions become warmer. Animals in these areas have adapted to live in the cold weather, and they rely on the ice cover to survive. This ice cover is decreasing, meaning they have to go longer without food.

Many indigenous people are also affected by climate change as they rely on local wildlife, like fish and reindeer, as the main part of their diet. As the number of animals decrease, the amount of available food also reduces.

KEY VOCABULARY

arctic	The area of the world around the North Pole.
barren	A barren landscape is dry and bare and has very few plants and no trees.
biome	A natural area of vegetation and animals.
climate	The general weather conditions that are typical of a place.
climate change	Changes in the earth's climate, especially the gradual rise in temperature, as a result of human activity.
continent	A very large area of land that consists of many countries. Europe is a continent.
global	Something that happens in all parts of the world or affects all parts of the world .
habitat	The natural environment in which an animal or plant normally lives or grows.
harsh	Harsh climates or conditions are very difficult for people, animals, and plants to live in.
landscape	Everything you can see when you look across an area of land, including hills, rivers, buildings, trees, and plants.
nutrients	Substances that help plants and animals to grow.
ocean	One of the five very large areas of salt water on the Earth's surface.
permafrost	Land that is permanently frozen to a great depth.
permanent	Something that is permanent lasts forever.
plain	A large flat area of land with very few trees on it.
polar	Near the North and South Poles.
sustain	Continue or maintain something for a period of time.
tundra	A flat layer of land where the top layer is frozen. There is hardly any vegetation.
vegetation	Plants, trees and flowers.

5. Can you describe the climate of the polar regions using your knowledge of hemispheres, the equator and the Tropics of Cancer and Capricorn?

Key Skills I will develop:

Enquiry Skills

- Investigate the facts and join in a reasoned discussion.
- Generate solutions and promote environmentally friendly ideas.

Map Skills

- Confidently use maps, globes and Google Earth using 4figure grid-references.

Field Skills

- Undertake environmental surveys, using the data to draw conclusions and linking to the beliefs and experiences of different people.

Communication Skills

- Use graphs, charts, data and measures to show findings of field work, drawing conclusions and making comparisons.
- Explain the climates of given countries in the world and relate this to knowledge of the hemispheres and the Equator.

Tundra Animals

