

## 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**.  
 locate 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.

**CLIMATE**

Long cold winters, with annual temperatures mostly below freezing.

Polar areas are often windy, with very little precipitation.

**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.

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

Barren landscape.



**WHAT IS PERMAFROST?**

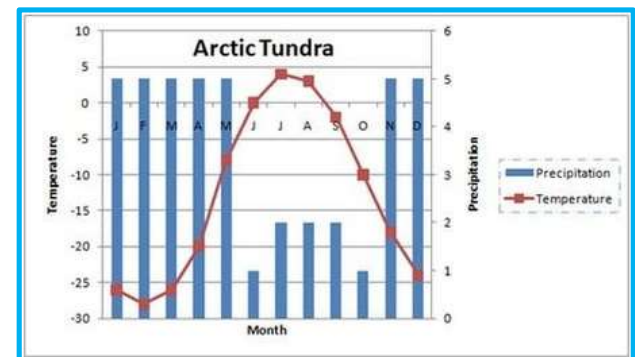
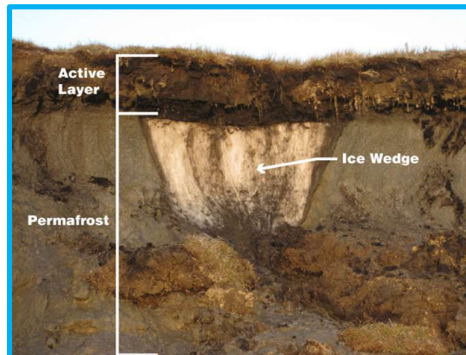
The thin layer of top-soil in the arctic tundra thaws during the summer months, but it is permanently frozen beneath the ground – this is **permafrost**.

Permafrost is any ground that remains completely frozen— 32°F (0°C) or colder—for at least two years straight.

Permafrost covers approximately 20% of the earth's surface.

The amount of permafrost is shrinking rapidly due to increases in global temperatures.

Permafrost is very challenging to build on, which is one of the reasons that very few people inhabit the tundra.



Find out more at: <https://climatekids.nasa.gov/permafrost/>

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

### 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.

### FUN FACTS!

The Arctic consists of The Arctic Ocean and parts of Canada, Russia, the USA, Greenland, Norway, Finland, Sweden and Iceland.

Because of the Earth's tilt, for at least one day a year there is a full day of entire darkness and also a full day of sunshine.

Temperatures can drop as low as -70!

Approximately 4 million people live in The Arctic

The indigenous people of The Arctic are called **Inuits**.

Inuits have **adapted** physically to survive in the harsh arctic environment.

In 1958, a submarine (USS Nautilus) sailed below the Arctic Ocean proving that the enormous ice sheets rest on water, not land.

Many living creatures inhabit the Arctic: polar bears, arctic foxes, walruses, seals and whales

Narwals (known as sea unicorns) live in the Arctic.

10% of the world's fresh water is in The Arctic.

The white of the ice reflects the sunlight, keeping the region cool and our global climate stable.

