

Frozen World | Geography | Years 5 & 6 | Autumn Term 2021

Topography (physical geography)

1	Glacier	Fallen snow that over many years form into large, thick, ice masses which flows like a very slow river.
2	Equator	An imaginary line drawn on the Earth at 0° latitude, equidistant from the poles, dividing the planet into northern and southern hemispheres.
3	The Arctic Circle	The region, which sits above the imaginary line of latitude wrapping around the globe at approx. 66° N. Above this line, the sun does not always set in summer – ‘the Midnight Sun’.
4	Antarctica	The area south of the Antarctic Circle (an imaginary line parallel to the equator that circles around the south pole at approx. 66° S). It is surrounded by the Southern Ocean. It is the fifth largest continent based on size.
5	Ice shelf	A thick, floating platform of ice that forms where a glacier flows down to the coastline and onto the ocean surface.
6	Aurora Borealis	A natural phenomenon, characterised by red/green streams of light in the sky, caused by the interaction of charged particles from the sun with the Earth’s magnetic field.
7	Climatic zones	Divisions of the Earth’s climates into general areas according to average temperatures and average rainfall. The three major climate zones are the polar, temperate and tropical zones.

Exploration

1	On 8 th August 1914, Ernest Shackleton lead an expedition to the Antarctic with crew of 26 men aboard two ships, ‘Endurance’ and ‘Aurora’. The crew faced much peril, including their ship becoming stuck in the ice, and were eventually rescued on 30 th August 1916 after two years of living on the ice.
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Why the Polar Regions are cold

1	The sun supplies the Earth’s warmth.
2	The North and South Poles are the furthest points away from the equator and curve away from the sun’s rays.
3	The sun’s rays have to travel further to reach the poles.
4	The further the sun’s heat has to travel, the cooler it becomes, hence why very little warmth actually reaches the North and South Poles.

Vocabulary

1	Biome	A community of plants and animals that have common characteristics for the environment they exist in.
2	Tundra	Vast, flat, treeless Arctic region where the subsoil is permanently frozen.
3	Taiga	The swampy, coniferous forest just south of the tundra.
4	Permafrost	Thick subsurface layer of soil that remains below freezing point throughout the year.
5	Indigenous	Originating or occurring naturally in a certain place; native.
6	Temperate	A region or climate characterised by mild temperatures.

Interesting Facts

1	The midnight sun is a natural phenomenon that occurs in the summer months in places north of the Arctic circle, or south of the Antarctic circle, where the sun does not set and remains visible at midnight.
2	The word ‘Arctic’ comes from the Greek word for bear ‘Arktos’ but this isn’t because of the polar bears. It’s believed the name refers to two constellations that can be seen in the northern sky – ‘Ursa Minor’ (Little Bear) and ‘Ursa Major’ (Great Bear).
3	Although over 98% of Antarctica is covered in ice, it is considered the world’s biggest desert because it never rains there; it is the driest and coldest continent on Earth.

Human geography

1	Antarctica’ has an official population of zero (although people do visit for research purposes).
2	Almost 4 million people live in the Arctic, including many indigenous groups (such as Inuit and Sami), people who live in cities, hunters and herders. Indigenous people make up about 10% of the population and keep traditional ways of living alive.

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Lesson Progression

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| 1 | Where are the Earth's climatic zones? What are their distinguishing features and what causes them? |
| 2 | Where is the Arctic Circle? |
| 3 | Is the Arctic only made of ice and snow? |
| 4 | How do the Arctic and Antarctic differ? How are they similar? |
| 5 | What causes the Aurora Borealis? |
| 6 | Is the Arctic inhabited? And the Antarctic? Why? |
| 7 | What is the Tundra biome? Explain the relationship between the flora and fauna of the Tundra and its climate. |
| 8 | What is the Taiga biome? Explain the relationship between the flora and fauna of the Taiga and its climate. |
| 9 | What might the Arctic be like in 2050? What role does climate change play in this? How can we influence this change and impact? |

Whole School Big Ideas

Investigate places

Investigate patterns

Appreciate natural
resources

Communicate
geographically

Develop an understanding over time of Key Themes

Location, physical features, human features, diversity, physical processes and human processes