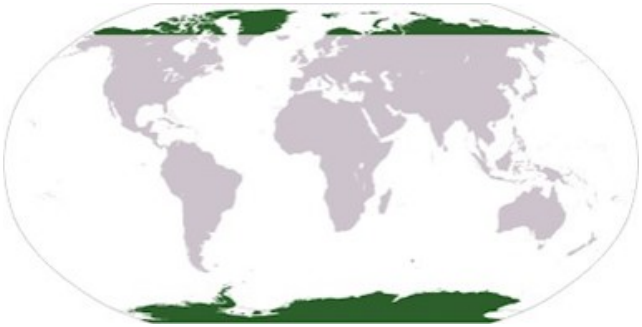
Bishop Monkton CE Primary School - Geography Knowledge Organiser – The Polar Biome—Year 4,5,6—Human and Physical Geography

What should I already know?

- The seven **continents** (including Antarctica) and five **oceans** of the world.
- Examples of some countries around the world and what the **climate** is like there.
- What **climate** means and how it affects the **vegetation** in an area.
- Different **biomes** around the world, including the **polar tundra** and some countries where it can be located.
- What plants need to survive.
- How **seasonal** changes can affect the **weather** and **vegetation**
- Different **habitats** and some plants and animals that can be found there.



Geographical Skills and Fieldwork

- Locate where the **polar biomes** can be found using maps, globes and atlases. Locate the countries that the **arctic tundra** can be found in.
- Describe the **climate** in the **polar biomes** and explain why this is the case.
- Explain the effect that **climate change** has on the **arctic tundra.**
- Explain why there is a lack of **vegetation** in the **polar biomes.**
- Compare the **vegetation** in the **polar biomes** to that of a woodland or forest and explain the similarities and differences.
- Look at digital maps of the **arctic tundra** over time. What do you notice? Why is this the case?
- Analyse bar charts that show average **temperatures** in the **tundra** at different times of the year.
- Explain what humans can do to help combat the effects of **climate change.**

Key Knowledge

- The **polar biomes** (which include the **arctic tundra)** are **harsh, challenging environments**
- Only the toughest plants and animals can survive in.
- The **habitat** has a long and brutal winter and the **barren landscape**
- While the **arctic tundra** is confined to only the areas near the north pole, other areas that are part of the **tundra biome** can be found in Antarctica and certain cold, **mountainous** regions.
- Unfortunately, the **arctic tundra** is shrinking as a result of **climate change**; the increasing **temperatures** are causing the **permafrost** to **melt.**



Permafrost:

- The thin layer of top soil in the **arctic tundra thaws** during the summer months, but beneath that the ground is **permanently frozen**.
- **Permafrost** currently covers approximately 20% of the earth's surface, but this amount 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**.

Landscape:

- Since the ground is **frozen** in the **tundra**, most plants are not able to grow their roots beneath the top soil or receive enough **nutrients** from the soil to **sustain** their growth.
- The plants that are able to grow are usually small in height and sprawl across the ground—giving the **tundra** a **barren landscape.**
- The summer is very short in the **tundra**, which also limits the ability of most plants to grow. The term **tundra** actually refers to a "treeless **plain**" or "**barren** land".

Climate:

- The **arctic tundra** is the coldest and driest place on the planet. In the **tundra** the autumn and spring **seasons** are basically non-existent, leaving only two **seasons**—winter and summer.

Vocabulary

arctic	The area of the world around the North Pole. It is extremely cold and there is very little light in winter and very little darkness in summer.
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**.
environment	All the circumstances, people, things, and events around them that influence their life.
frozen	When something has become a solid because of low **temperatures** .
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 .
melting	To change from a solid to a liquid state through heat or pressure.
mountain	A very high area of land with steep sides .
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 for ever.
plain	A large flat area of land with very few trees on it .
polar	Near the North and South Poles.
seasons	Main periods of the year that can have their own **weather** conditions.
sustain	Continue or maintain something for a period of time.
temperature	A measure of how hot or cold something is.
tundra	A flat layer of land where the top layer is frozen. There is hardly any **vegetation**.
vegetation	Plants, trees and flowers.
weather	The condition of the atmosphere in one area at a particular time, for example if it is raining, hot, or windy.