

## The Arctic

**Location:** North Pole region; includes parts of Canada, Alaska, Greenland, Norway, Sweden, and Russia.

**Climate:** Cold, with temperatures as low as  $-40^{\circ}\text{C}$  in winter; summer temperatures can rise slightly above freezing.

**Land Features:** Mostly sea ice, with a few landmasses (Greenland, Arctic Archipelago, etc.). Has polar deserts.

**Flora & Fauna:** Few plants, mainly lichens, mosses, and low shrubs. Key animals: polar bears, seals, Arctic foxes, and migratory birds.



## The Antarctic

**Location:** South Pole, surrounded by the Southern Ocean; no human population except for researchers.

**Climate:** Extremely cold, with temperatures often below  $-60^{\circ}\text{C}$ , colder than the Arctic due to the higher elevation and isolation.

**Land Features:** Ice-covered continent with no native plant life. Ice shelves, glaciers, and mountainous regions.

**Flora & Fauna:** No trees or shrubs. Penguins, seals, and krill are prominent animals. Limited vegetation includes mosses and lichens.



# Frozen Kingdom



## Animal Adaptation

Animal adaptation refers to the ways animals change their behaviours or physical characteristics to survive in their environment. These adaptations might include changes in body structure, behaviour, or strategies that help animals cope with challenges such as extreme cold, food scarcity, or predators.

## Evolution

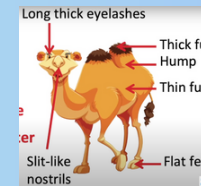
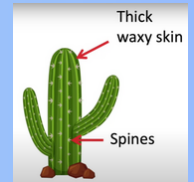
**Theory:** The process by which species change over time through natural selection.

**Survival of the Fittest:** Species in the Arctic and Antarctic have evolved physical and behavioral traits suited to extreme conditions (e.g., blubber in seals or white fur in polar bears).

**Adaptation:** Species that thrive in the Frozen Kingdom have undergone gradual changes in their physical characteristics, like fur color, body size, and metabolism, to cope with the cold.

## Plant Adaptation

Plant adaptation refers to the modifications plants make to survive in harsh environments. This can include changes in how plants manage water, resist extreme temperatures, or deal with limited sunlight. Plants may develop special physical features or behaviors that allow them to thrive in freezing conditions.



## Human Adaptation

refers to the ways humans modify their behavior, culture, and physiology to survive in extreme environments. This could involve changing clothing, altering daily routines, or adjusting diet and shelter to cope with cold temperatures or limited resources.

## Extinction

**Endangerment:** Species like the polar bear are increasingly at risk of extinction due to climate change, which melts their icy habitats.

**Past Extinctions:** The end of the last Ice Age led to the extinction of many species like the woolly mammoth, whose habitat was lost due to warming.

**Conservation Efforts:** Protecting habitats and reducing human impacts on the environment are crucial to prevent the extinction of species in these regions.