

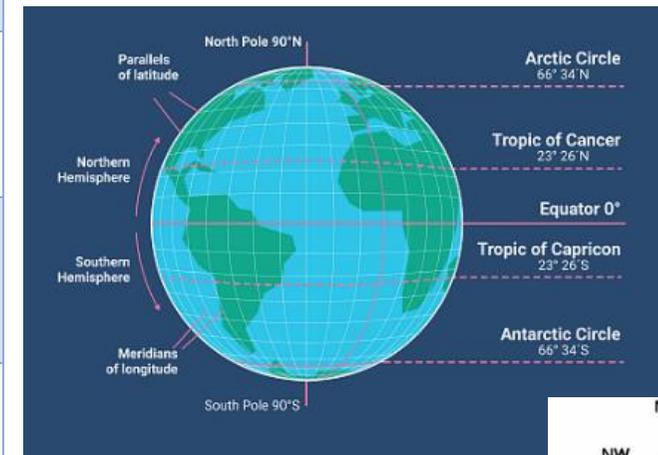
# Year 6 Explore Knowledge Organiser – Our impact on the world



## Comparison

	Antarctic	Arctic
<b>Terrain</b>	The Antarctic is based on a large land continent (Antarctica) covered in ice and snow. Antarctica has several mountains as well as huge glaciers. Large icebergs can be found at sea.	The Arctic ocean is the main feature of the Arctic. However, it is covered by thick sea ice for most of the year, underneath a blanket of snow. Therefore, the Arctic is quite flat compared to the Antarctic.
<b>Climate and Weather Patterns</b>	Antarctica is the coldest place on Earth. The temperature can reach as low as -89°C! Worse still, freezing blizzards can take place for days at a time.	The Arctic is not as cold as the Antarctic: The ocean warms the air a little. It is still very cold though! In some months, the Northern lights can be seen in the Arctic.
<b>Animals</b>	Emperor penguins are one of Antarctica's famous residents. A number of seals and birds also live in Antarctica.	Polar bears are one of the apex predators in the Arctic. The Arctic fox, reindeer, walrus, baluga whales and narwhals also live in the Arctic circle.

## Longitude and latitude



## The Greenhouse Effect

Some solar radiation is reflected by the Earth and the atmosphere.

Some of the infrared radiation passes through the atmosphere. Some is absorbed and re-emitted in all directions by greenhouse gas molecules. The effect of this is to warm the Earth's surface and the lower atmosphere.

Most radiation is absorbed by the Earth's surface and warms it.

Infrared radiation is emitted by the Earth's surface.

## SOCIAL AND ECONOMIC IMPACT OF CLIMATE CHANGE

- The cost of adapting coastal areas to rising sea levels
- Relocation of whole towns
- Shrinking productivity of harvests
- Prices of basic foodstuffs and consumer goods will rise
- Extreme meteorological phenomena will cause widespread poverty
- Diseases will spread due to higher temperatures
- Fresh water will be in short supply in some areas
- More wars to gain access to limited resources
- Loss of the capacity to work due to heat

## Key Vocabulary

Antarctica	Earth's southernmost continent. It contains the geographic South Pole and is situated in the Antarctic region of the Southern Hemisphere.	Pollution	Act of making something dirty or harmful by adding waste material.
Arctic	An area made up of the regions around the North Pole and is situated in the Northern Hemisphere.	Whaling	The business or work of hunting and killing whales and selling their parts.
Axis	A real or imaginary line through the centre of an object, around which the object turns.	Topography	The shape of the earth's surface across an area or region.
Time zone	A range of longitudes where a common standard time is used.	Latitude	The distance between the equator and a point north or south on the earth's surface. This distance is measured in degrees.
Climate change	A change in global and regional climate patterns because of an increase in atmospheric carbon dioxide from the burning of fossil fuels.	Longitude	The distance on the earth's surface east or west of an imaginary line on the globe that goes from the north pole to the south pole and passes through Greenwich, England. Longitude is usually measured in degrees.
Climate	Average measurements of temperature, wind, humidity, snow and rain in a place over the course of years.	North/South Pole	The northernmost and southernmost points on Earth which are where the Earth's axis meets the Earth's surface.
Greenhouse effect	The warming of the Earth's surface and the air above it caused by gases in the air that trap energy from the sun.	Urbanisation	Refers to the population shift from rural to urban areas and the ways in which society adapts to these changes.
Biome	A large community of plants and animals that have common characteristics for the environment they exist in.	Greenhouse gases	They are gases in the air that trap energy from the sun as part of the greenhouse effect. The most common greenhouse gases are water vapour, carbon dioxide and methane.
Hemisphere	A half of the earth, usually as divided into northern and southern halves by the equator, or into western and eastern halves by an imaginary line passing through the poles.	Sustainability	The idea that humans must interact with the environment in a way that ensures there will be enough resources left for future generations.

