



Key vocabulary

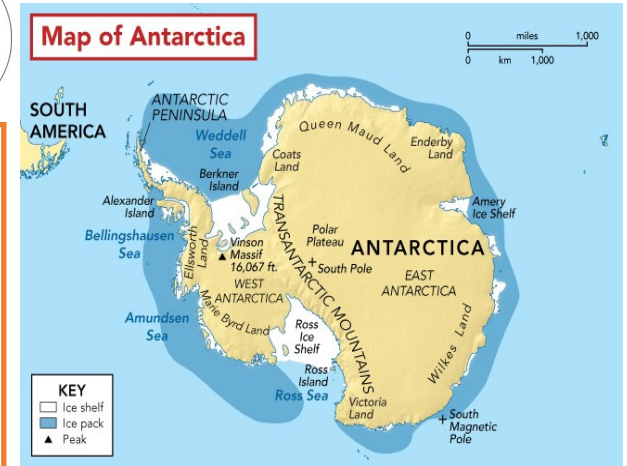
Need to know	Nice to know	Super-specialist
Antarctica	albatross	continental shelf
continent	Emperor penguin	Continental slope
glacier	Killer whale	crustacean
global warming	plankton	expedition
greenhouse gases	atmosphere	formations
habitat	extinct	sediments
ozone layer	excursion	Roald Amundsen
temperature	polar region	
Shackleton	protection	
mountain	territory	
research station	treaty	
icebergs	Arctic region	
Endurance		



Explorers and Exploration



Learning Journey—In geography, pupils will revise the position and significance of lines of latitude, longitude, Equator, Northern and Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones. Before learning in more detail about Antarctica, its main geographical features and its geological history including how fossil records show that, millions of years ago, the area used to be part of the much larger continent of Gondwana. Pupils will consider how Antarctica's current weather, climate, glaciology, icebergs and sea-ice are related to its physical setting and they'll find out more about the sparse flora and fauna that have colonised this harsh environment. Pupils will also look at the human presence in the region and Antarctica's research stations' importance as a natural laboratories for scientists studying climate change. They will also learn about Antarctica's fascinating history of human exploration: the pioneering voyages and overland travel, bravery and hardship of e.g. Shackleton, Scott and Amundsen.



Antarctic Treaty: Signed in Washington in 1959 by 12 nations including: Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, United Kingdom, United States of America and USSR). This treaty sets aside Antarctica (an area below of 60° South latitude) as a scientific preserve, establishes freedom of scientific investigation and bans military activity on the continent.

Key Features and Landmarks

Population: No indigenous population. Tourists and research scientists only. In the Winter only about 1000 research scientists remain.

Area: Landmass of approx. 14,000,000 km². World's 5th largest continent.

Major Rivers and Lakes: Antarctica is underlain by almost 400 sub glacial lakes (containing water) lying, in some places, under ice as deep as 4000m.

Major Geographical Features: Made up of 98% ice sheet (in places 4000 m deep) with the remaining 2%, barren rock. Surrounded by the Southern Ocean. Antarctica is divided by the Transantarctic Mountain range to give East Antarctica, a large ice-covered plateau and Western Antarctica, which is mainly ice sheet covering an archipelago of mountainous islands. Mount Erebus, an active volcano on Ross Island, is 3794 m high. The deep ice keeps Antarctic temperatures, even in summer, cold.

Major Biomes: Antarctica is the coldest, windiest and driest place on Earth. Classified as a desert.

Mountains: Transantarctic Mountains - a chain of mountains stretching for approx. 2000m from Victoria Land to the shores of the Weddell Sea. Rising to 4528 m at Mt. Kirkpatrick in the Queen Maud Mountains. Region contains world's largest coal reserves and fossil remains of primitive amphibians, reptiles, insects and marsupials.

Links to prior learning:

Geography: Continents, oceans and seas; lines of latitude and longitude and the Equator; mountains and volcanoes; polar regions;

Science: Weather and climate; Global warming, pollution and greenhouse gases; States of Matter; Electricity; pollution; Animals and Habitats; Evolution and Materials.

History: British Empire; Explorers; Slavery; Victorians; Captain Cook; Africa; United States of America Exploration during Tudor times e.g. Francis Drake and Walter Raleigh. Other famous explorers e.g. Marco Polo, Christopher Columbus
Space Exploration e.g. Neil Armstrong



Mount

Erebus, Antarctica

Key texts:

Shackleton's Journey by William Grill; **IceTrap** by Meredith Hopper; **Captain Scott** by Adrian Bradbury; **Tom Crean's Rabbit** by Meredith Hopper and Bert Kitchen; **Antarctica** by Lucy Bowman; Polar Lands by Steve Parker; **DK Eye Witness Guide Arctic & Antarctic** by Barbara Taylor; **Explorers** by Nellie Huang & Jessamy Hawke; **Introducing Antarctica** by Anita Ganeri.

Family Fun:

www.activewild.com/antarctica-facts-for-kids/; www.antarcticglaciers.org/
www.coolantarctica.com; discoveringantarctica.co.uk

Also see Espresso at www.discoveryeducation.co.uk which has lots of information on Antarctica. World explorers www.ducksters.com

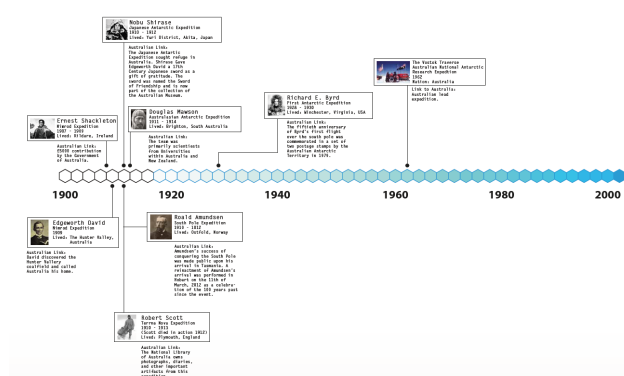
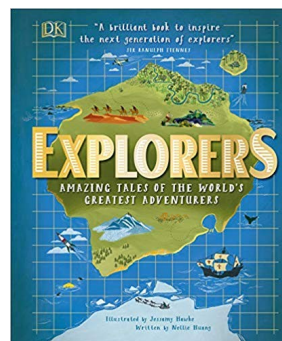
Places to visit:

The Scott Polar Research Institute, Cambridge. See their website at spri.cam.ac.uk

The Natural History Museum holds an extensive collection of items and notebooks from Scott's Discovery Expedition and includes sketches by the expeditions doctor, Edward Wilson.

The National Maritime Museum has a collection of items from Antarctica collected during the Heroic Age of Antarctic Exploration.

Wind turbine Visitor centre: www.greenpark.co.uk



Links to future learning:

Further learning:

Science: Climate change, global warming and fossil fuels; electricity and renewable energy. Recycling.

History: Discovery of Antarctica; Timeline of expeditions to Antarctica; Shackleton's 'Endurance' Expedition; Captain Robert Falcon Scott's final expedition; Amundsen.

Modern Explorers: Jessica Watson; Gerlinde Kaltenbrunner; Bear Grylls; Ranulph Fiennes; David Livingstone;

Famous Environmentalists: Rachel Carson; Sir David Attenborough; Greta Thunberg; John Muir; Robert MacFarlane; Sir Peter Scott

British Antarctic Survey— scientific research and research station.

Antarctic Treaty 1959

