

DESERT BIOMES



Deserts are arid ecosystems: they are any place where less than 25cm of precipitation (rain) falls each year. A common mistake is that deserts are always hot, sandy spaces; in fact, deserts can be hot or very cold (like Antarctica). It is no surprise that the hottest and coldest places on our planet are both in deserts: the Death Valley in Nevada has an average temperature of 45°C whereas part of Antarctica has reached -89°C!

Over 33% of the Earth's surface is desert	Largest desert city: Cairo
Only 20% have sand	Most populated desert: Thar Desert

4 categories of desert:

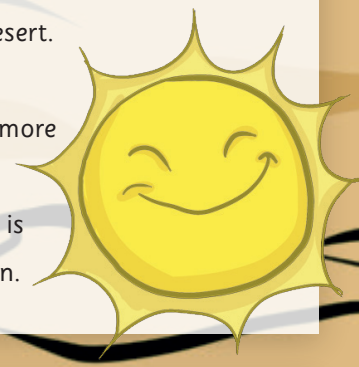
- Hot and dry
- Semi-arid
- Coastal
- Cold

Changing deserts

Increased droughts and changes in rainfall are the consequences of climate change. Even very small changes can have a big impact in these unique landscapes. If you were to compare maps over time, you would notice desertification has occurred. This is where fertile land has been turned into desert land through droughts. Consequently, deserts grow larger and appear to spread.

Desert weather

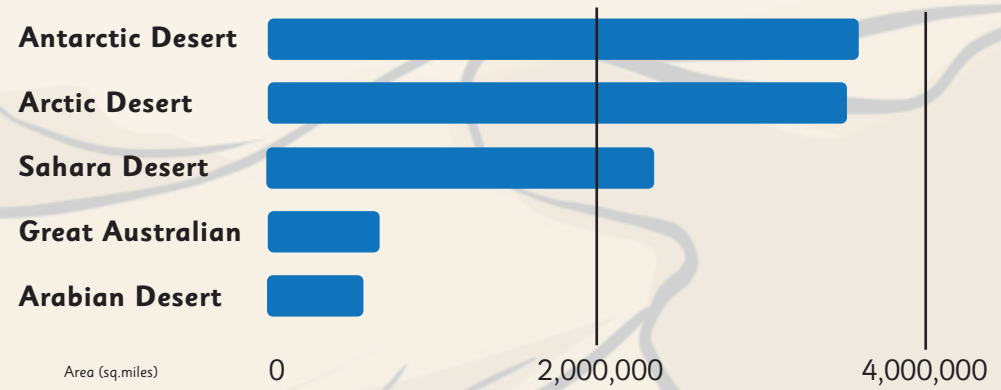
The weather is peculiar in the desert. Clearly, rainfall is rare; however, sand and dust storms are much more common. Temperatures usually change depending on whether it is night or day, or with each season.



Did you know?

Some non-renewable energy sources – such as natural gas and oil – can be harvested from deserts. Additionally, precious minerals like gold, silver, zinc and even gemstones can be found!

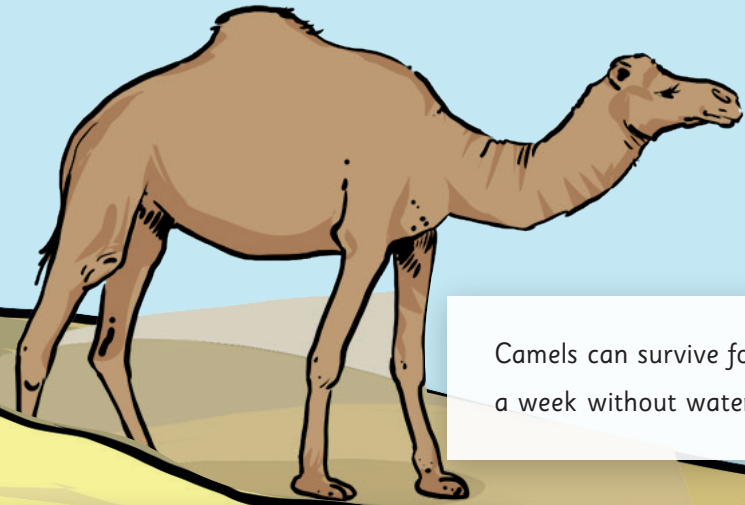
The 5 largest deserts in the world



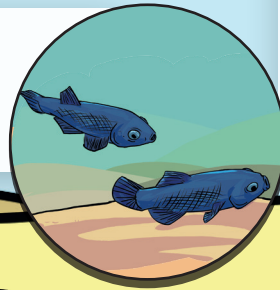
Data for graph comparing sizes: The 5 largest deserts in the world

Desert	Area (sq. miles)
Antarctic Desert	5,482,651
Arctic Desert	5,366,820
Sahara Desert	3,552,140
Great Australian	1,042,476
Arabian Desert	899,618

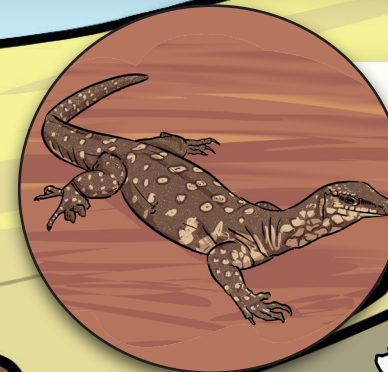
Hot and dry deserts



Camels can survive for over a week without water.

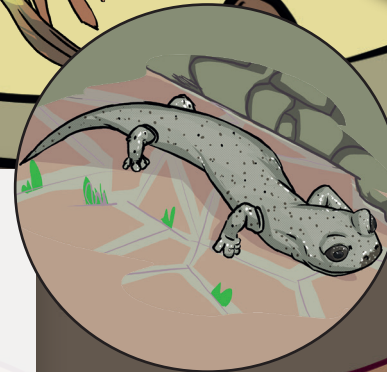
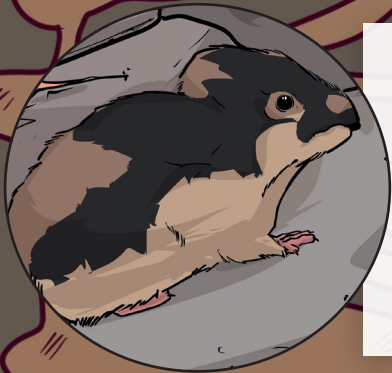


The welwitschia plant – which is found in the Namib Desert – can live up to 2000 years and they have only two ever-growing leaves!

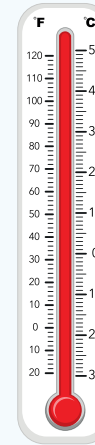


9 species of lizard can be found across Earth's deserts.

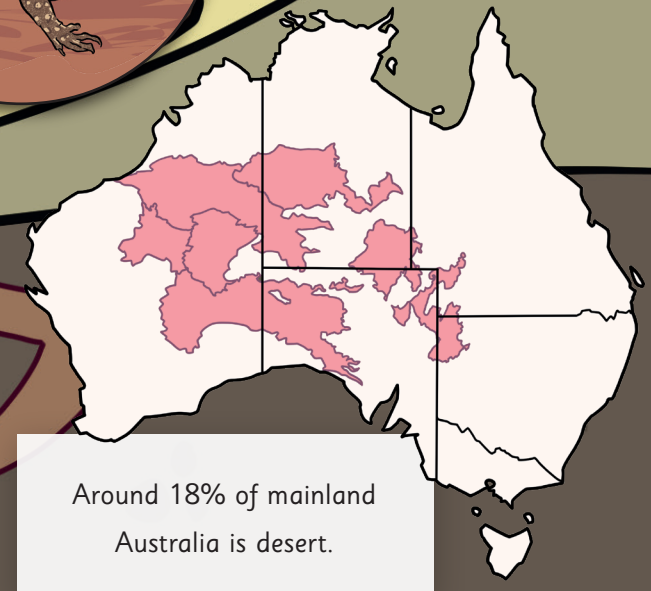
Many animals burrow into the sand to avoid the heat: gophers, coyotes and foxes. Complex tunnel systems are built by lemmings and other rodents; many other animals make use of these tunnels to lay eggs or shelter, like geckos.



The hottest recorded temperatures in world deserts



Desert	Hottest recorded temperature
Death Valley (The Mojave Desert)	56.7°C
Lut Desert	54°C
Sahara Desert	57.7°C
Arabian Desert	55°C
Thar Desert	51°C



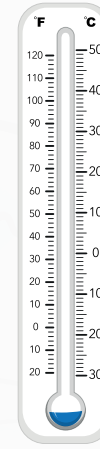
Around 18% of mainland Australia is desert.

Cold deserts

'Polar night' is experienced by the most northern and southern parts of our planet when nighttime lasts over 24 hours. The opposite can happen too: the signature 'midnight Sun' can be glimpsed in Greenland – among other places – where the Sun does not set from May-July.



The coldest recorded temperatures in world deserts



Desert	Coldest recorded temperature
Antarctic Polar Desert	-89.6°C
Greenland	-69.6°C
Arctic Desert	-68°C
Kyzylkum Desert	-42°C
Gobi Desert	-32.8°C

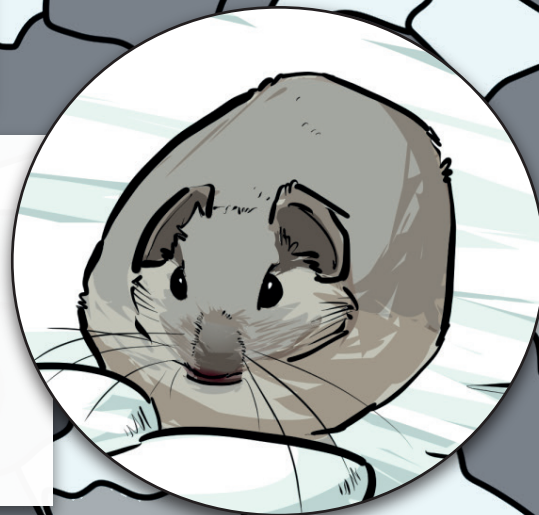
Although some soil and vegetation exists, most cold deserts consist of:

- snow
- pack ice
- glaciers
- bare rock
- gravel plains

The Arctic fox has a round body, with very thick white fur to stop body heat escaping and help them camouflage.

Polar bears and penguins have never met in the wild: they are each found on opposing sides of the planet.

Arctic lemmings build tunnels under the snow, too; however, they also use ox wool, grass and feathers to build snugly shelters to keep warm. They could remain there all winter to guarantee survival.

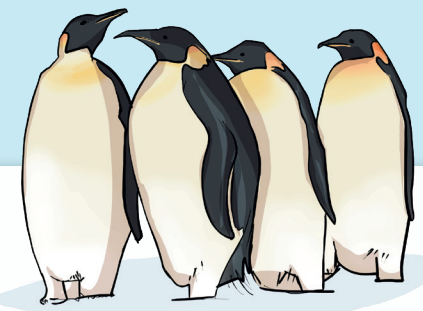


A focused look at...

Antarctica

This is the largest cold desert in the world; 98% of the land is made up of ice that is sometimes 4.7km thick! Because the polar ice and landscape are so extreme, it is no surprise that biodiversity is limited. Incredibly, there are no fully terrestrial animals (like mammals, reptiles or amphibians) living here. These animals, that call this place home, spend the majority of their time in or near the ocean.

Frosty facts:

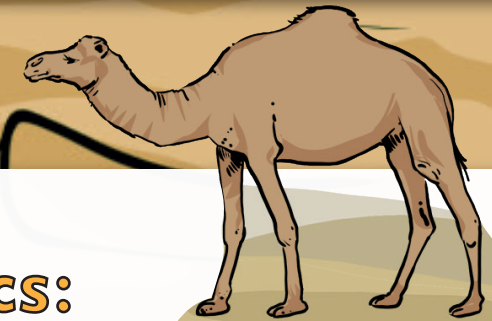


1000+ fungi species	98% ice
0 mammals, reptiles or amphibians	14 million+ square miles in area
40% larger than Europe	Average thickness of sheet ice: 1.9 km

The Sahara Desert

There's a lot more than just sand in the world's largest hot desert. Covering most of North Africa, the area has a variety of physical features: sand dunes, mountains, gravel plains and two rivers (the Nile and the Niger). Pools of water can support water-dwelling amphibians and reptiles as well as the expected cheetahs, gazelles and ostriches. Curiously, it actually cools at night: it can reach -6°C! Subsequently, snow can sometimes be found on the mountain peaks.

Sizzling statistics:



Average temperature of 30°C	450m+ high sand dunes
25% of the surface is sand	Population: 2.5 million
500 species of plant	70 mammal species
300 species of bird	100+ reptile species