



Did you know...?
Penguin feathers are made of keratin, the same substance that makes up our hair and nails!

A newly hatched chick keeps safe and warm by snuggling under its parent's fluffy pouch

The eggs factor

The emperor penguins' most astonishing feat has to be their yearly breeding ritual. During April and March, adult penguins start a long journey away from the water's edge that has kept them fed for the last few months. Groups of up to 100,000 penguins, called 'colonies', will waddle along for up to 50km, until they find a spot where ice cliffs or icebergs provide some shelter from the savage winter weather that is on its way. Then the colonies' male and female penguins pair up to breed and, a few weeks later, the females each lay a single egg, which they keep safe on top of their feet.

By now, the new mums haven't eaten for weeks, and creating an egg has used up most of their energy reserves. So after carefully moving the egg to the top of their male partners' feet, the females start the long trek back to the sea, where they'll spend two months feeding and building up their strength again. And this is the time when the male emperor penguin proves he's one of the most dedicated dads on the planet!

Team work

As the sunlight hours dwindle to just four a day, winter's harshest conditions bite down. With months to go until their next meal, the male penguins make it their mission to incubate (keep warm) the eggs. This is a very risky job, because if the egg is exposed to the icy temperatures – which can drop to -50°C – it will freeze in seconds.

Each penguin carefully balances his egg on his feet, covering it with his brood pouch, a fold of skin below the belly. For extra warmth, the males spend hours huddling together in huge groups, taking turns to move from the edges to the centre where the temperature could be up to 50°C warmer than the Antarctic air. And this is how they'll live for another couple of months, until the chicks hatch, and the females return with food stored in their stomachs for their young.

It will still be around seven weeks before the chicks are strong enough to stand the

cold on their own – so now it's the mums turn to keep the chicks on their feet. This leaves the dads – which may have dropped in weight from 40kg to 20kg on their long fast – free to set off for the sea and a well-earned feed!

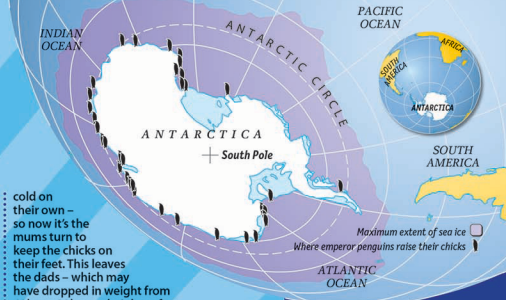
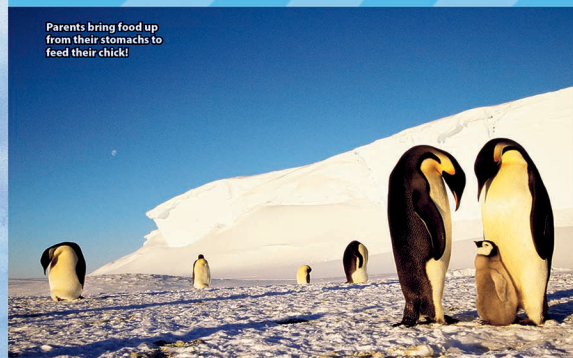
A new challenge

Sadly, facing these extreme conditions isn't the only challenge the emperor penguins face – climate change has created new dangers for the penguins.

Various studies have recorded dramatic drops in the amount of the penguins' 'prey' in the water, gradual rises in temperature, and the thinning of the sea ice where the birds live. And even though Antarctica is far away from where humans live, experts fear that the CO₂ emissions we create are to blame. Some researchers even predict that some emperor penguin colonies could be extinct by 2100.

One thing is clear, says Dr Kooyman. Because there was hardly any human activity here until very recently, environmental changes, and the impact they have, will be easy to see – so he and many other scientists will be watching closely. 'Emperor penguins are a resilient species that cope with a constantly changing environment,' Dr Kooyman says. 'The issue now is, can they adapt fast enough?'

Parents bring food up from their stomachs to feed their chick!



NAME A PENGUIN IN ANTARCTICA

WWF has created an Adopt A Penguin scheme to help protect the emperor penguins' Antarctic neighbours, the Adélie penguins, and their habitat.

Scientists are tracking a colony of 800 Adélie, and following the lives of five of them closely, to learn more about these amazing animals and how they live. And we want you to come up with the perfect name for one of the five penguins!



Which of these is not a type of penguin?

- a) Emperor
- b) Chinstrap
- c) Polar



Find out more about the penguins' plight at www.org.uk

