

**THE
NATURE YEAR**



DECEMBER

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THE WORLD IN DECEMBER

IN THE NORTHERN hemisphere the shortest day of the year approaches.

It may be bitterly cold and there is little animal activity. Meanwhile, it is summer in the southern hemisphere and temperatures are at their highest.

In northern temperate regions, berries are one of the few food sources for birds. Hungry mammals, such as rodents, rabbits and deer, may strip bark off trees. Most insects migrate or hibernate, often tunnelling into the soil to avoid winter frosts. A few insects, such as grasshoppers and some moths, spend the winter as eggs or larvae under the ground.



A blackbird sings to mark his territory. The land may be frozen now, but he needs to maintain his territory throughout the year, not just in the breeding season. Behind him, holly and mistletoe are both bearing berries.

Camouflaged in a bed of bracken, a poorwill hibernates through the winter. It is the only bird known to do so. The poorwill, known as *holchko*, or “sleeping one”, by native Indians, may hibernate for about three months, while food is scarce. Like other hibernators, its heartbeat and breathing slow down and its body temperature drops.



In Australia, this huge Hercules moth caterpillar has safely survived the spring. This is thanks both to its bright warning colours, which make animals think it is poisonous, and its long yellow spines that make it tricky to swallow. Now it spins a huge, pear-shaped cocoon, in which it transforms itself into an adult.



ARCTIC

IN HER DEN, deep inside a snowdrift, a female polar bear gives birth to two tiny cubs. Little larger than guinea pigs, the newborn cubs are blind, naked and helpless.

The cubs will not be able to leave their home for another three months. During that time, they feed on their mother's fatty milk, and stay close to her, nestling in her thick white fur for warmth. The igloo-like maternity den also keeps them sheltered from icy winds and the Arctic cold.

In a month or so, the cubs will open their eyes for the first time. Not long after that, they will take their first steps. After just two months, the cubs already weigh 25 times what they did at birth. By this time they have started to grow their own thick coats of fur and rows of small, sharp teeth.



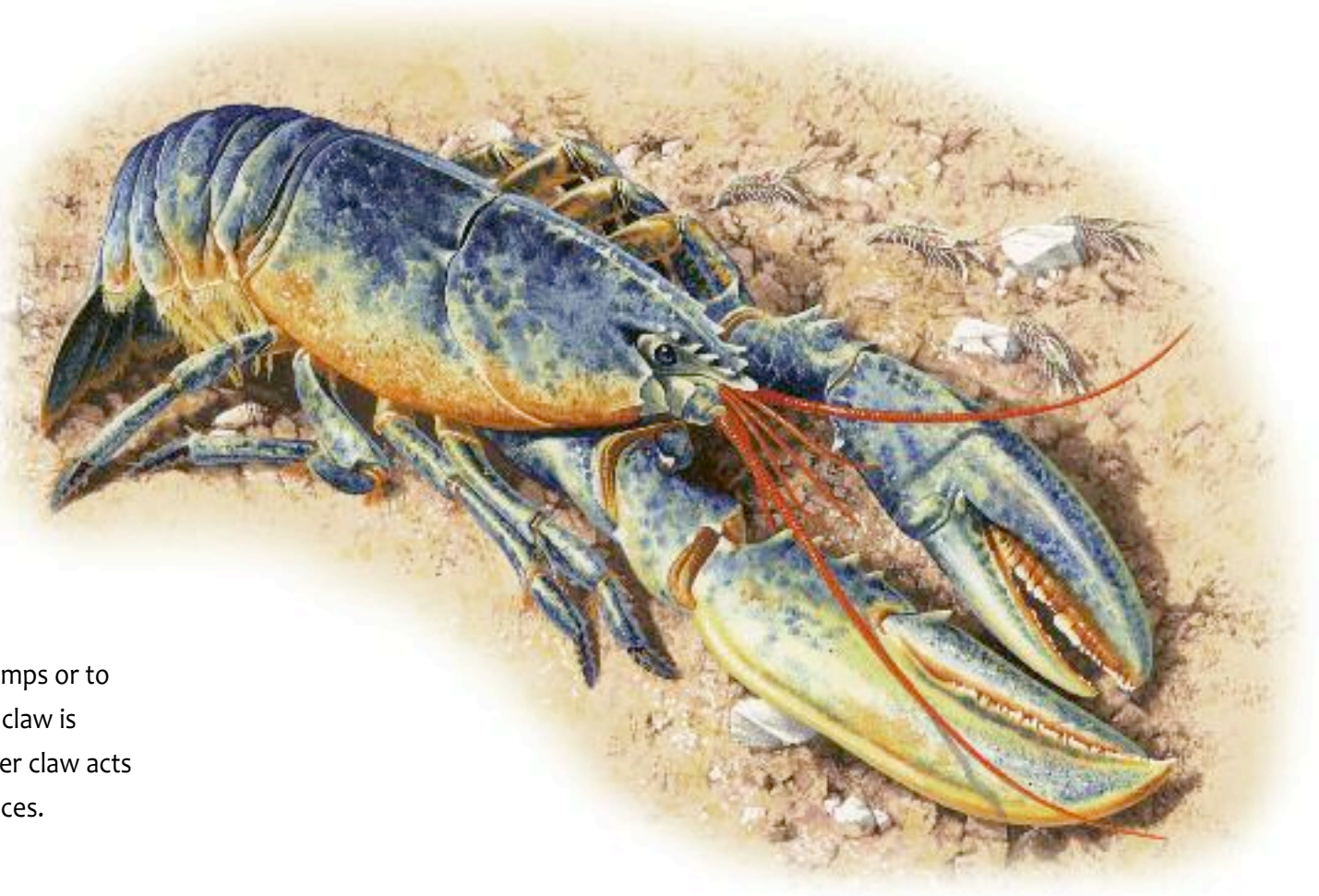
A mother polar bear curls around her cubs. When the cubs are not feeding, the whole family sleeps.

EUROPE

EUROPEAN LOBSTERS spend most of their lives in shallow coastal waters. But in winter, they retreat a few kilometres out to deeper waters where temperatures are slightly warmer. Here, the lobsters shelter in caves and crevices.

The deeper waters are still cooler than what the lobsters are used to. They eat only occasionally during their stay here. This is because cooler temperatures slow down their metabolism—the rate at which animals get energy by breaking down food.

Lobsters use their claws to grab fish and shrimps or to dig for clams and urchins to eat. Their larger claw is used for gripping and crushing prey. The other claw acts like a pair of scissors, to cut the prey into pieces.

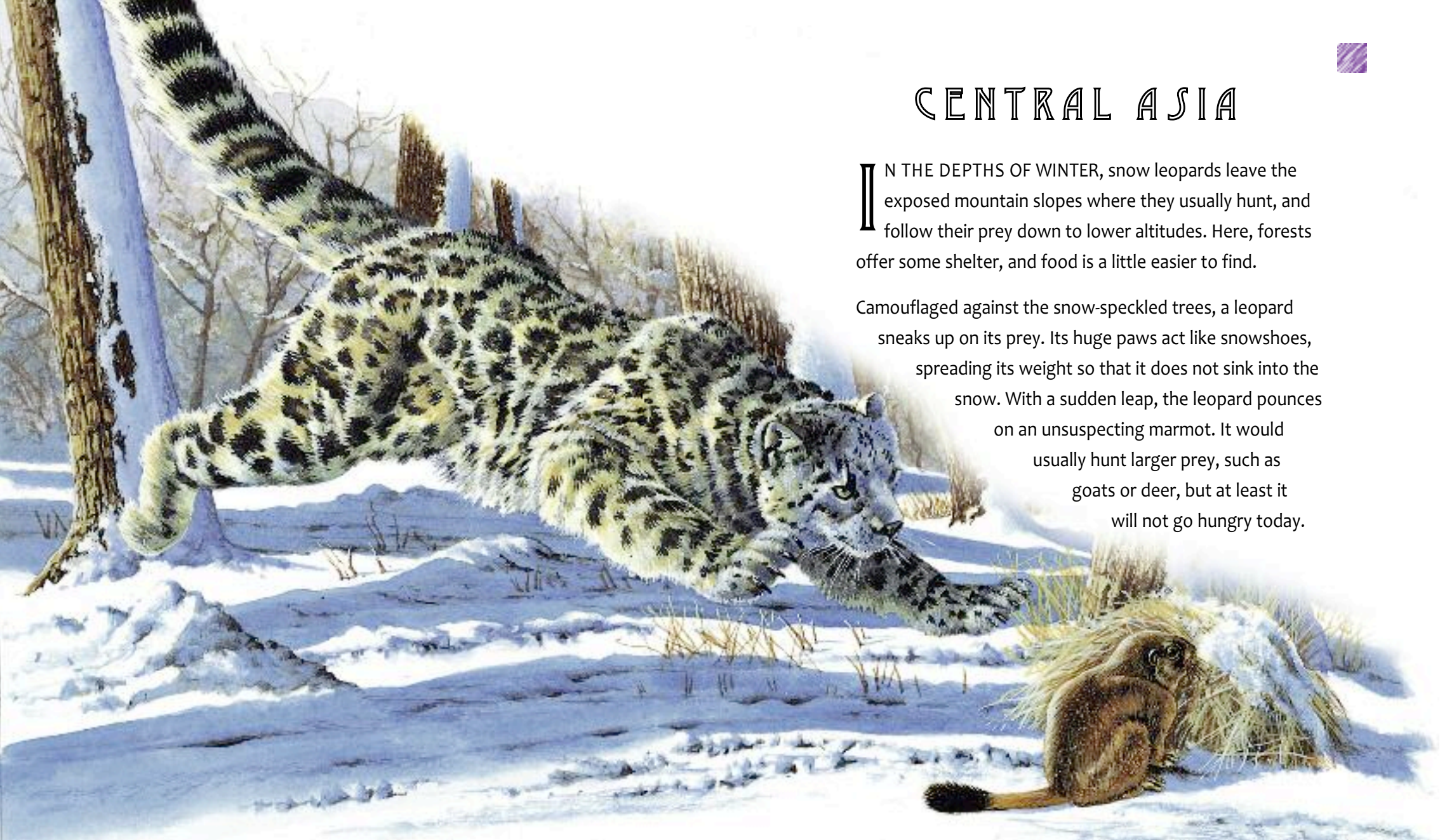




CENTRAL ASIA

IN THE DEPTHS OF WINTER, snow leopards leave the exposed mountain slopes where they usually hunt, and follow their prey down to lower altitudes. Here, forests offer some shelter, and food is a little easier to find.

Camouflaged against the snow-speckled trees, a leopard sneaks up on its prey. Its huge paws act like snowshoes, spreading its weight so that it does not sink into the snow. With a sudden leap, the leopard pounces on an unsuspecting marmot. It would usually hunt larger prey, such as goats or deer, but at least it will not go hungry today.



NORTH AMERICA

IN THE AUTUMN, thousands of sockeye salmon swam up the rivers of their birth to spawn. Now, three months later, thousands of pea-sized eggs are hatching out. The young salmon are called alevins. They still have balloon-like yolk sacs attached to their bodies. These provide the young fish with food for about a month, while they live in gravel on the riverbed.



When the salmon leave their gravel nest, they are known as fry. They slowly make their way downstream. After several months, they develop stripy markings. At this stage they are known as parr. Parr spend up to three years in fresh water before swimming towards the sea.



At this point, the young fish, now called smolts, cluster together in large schools and swim out into the Pacific Ocean, where they will spend the next five years of their lives.





CENTRAL AMERICA

DURING AUTUMN AND WINTER, huge schools of scalloped hammerhead sharks congregate in the waters around Central America. The sharks gather in deep waters around seamounts (underwater mountains), close to their main feeding areas.

By day, groups of up to 500 sharks, mostly females, cruise together. Individuals use displays, such as sudden twisting or thrashing movements, to win the best positions at the centre of the school. During the day, the sharks show no interest in food, but at night they split into smaller groups to feed on squid and stingrays.

The unusual shape of the hammerhead shark's head, with one eye sticking out on each side, gives it 360 degree vision, which helps it to look for prey. Its head also contains sensors, which detect electrical signals given off by other creatures. These can help the shark locate even stingrays that hide under the mud on the sea floor.



SOUTH AMERICA

HIGH ABOVE THE Andes Mountains in South America, the Andean condor, one of the largest birds in the world, soars on rising warm air currents. It can fly for many kilometres without flapping its wings, as it searches for carrion, its principal diet.

Lying between the mountain summits are grassy plateaux, where guanacos, wild relatives of the llama, roam. Now it is summer, the snows have largely melted, revealing new plants for the guanacos to eat. Guanacos can carry more oxygen in their blood than any other mammal, enabling them to cope easily with living at high altitudes where the air is much thinner.



EAST AFRICA

IN EAST AFRICA, December marks the end of the rainy season. As dusk falls, an aardvark leaves its burrow for the night to feed on ants and termites. It uses its shovel-like paws to dig into the side of termite mounds and ants' nests. This is much easier now, in the summer, when the earth has been softened by rain, so the aardvark stays active right through the night.



As well as probing for ants and termites, aardvarks dig burrows to live in. Temporary burrows are dotted around the edge of its feeding range, as hideaways in case danger threatens. A main burrow, where it will raise its young, needs to be much larger.

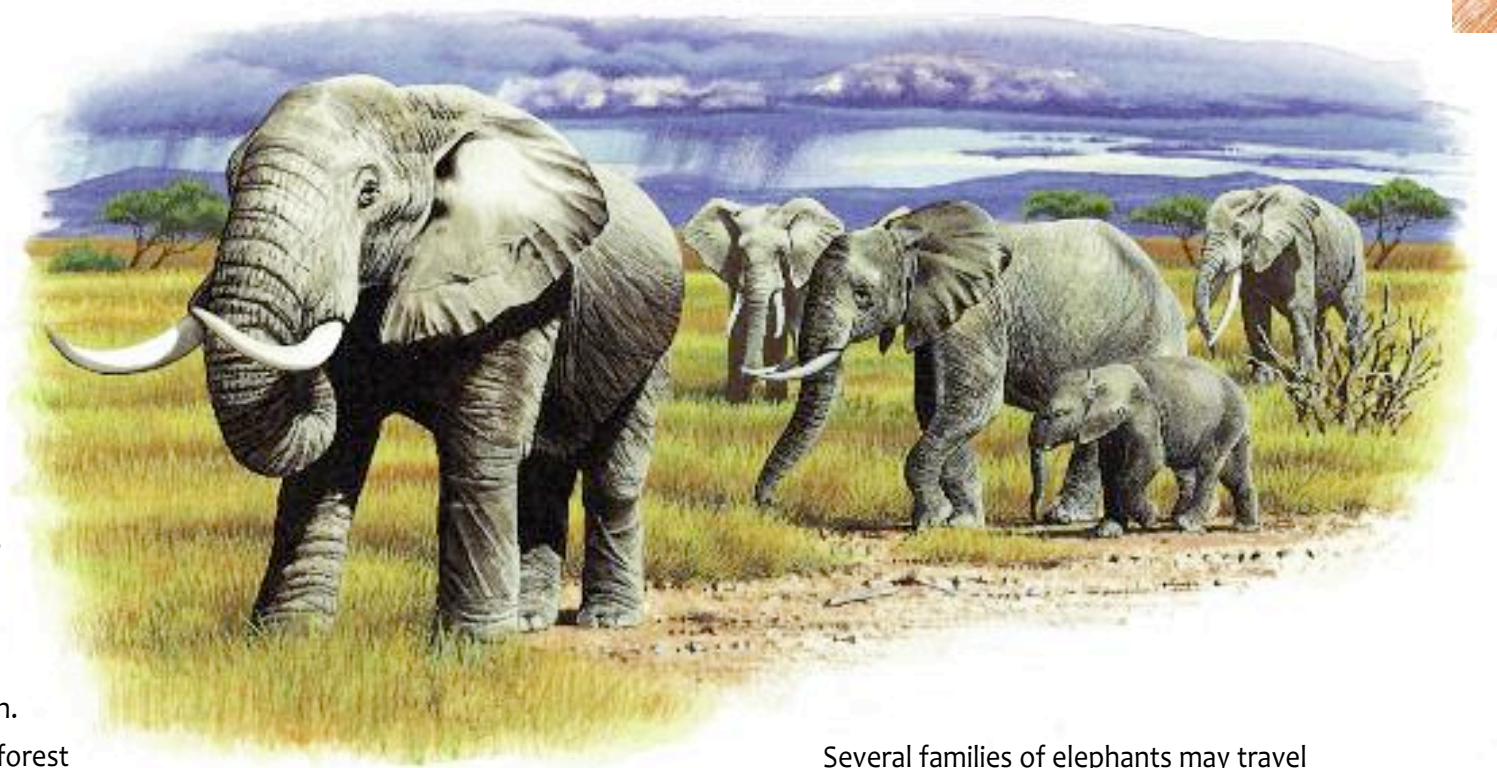


ALTHOUGH GIRAFFES can cope quite easily in the coming dry season, they drink as much as they can while the river waters are still high. Because their legs are so long, they have to splay them wide to reach down far enough to take a drink.

SOUTHERN AFRICA

IN SOUTHERN AFRICA, elephants have spent the last three months in a sheltered forest, foraging for shoots, bark and roots. The grasses they usually eat have withered and died during the dry season.

In December, the rains at last return. The elephants can finally leave the forest and head for the open grassland. By now, they have demolished much of the forest, overturning trees and eating everything in sight, so moving on gives the forest some time to recover.



Several families of elephants may travel together, led by the matriarch, the oldest cow in the group. The youngest elephants often walk in the middle of the group, touching trunks with the adults for reassurance.

AUSTRALASIA



AT THE START of the mating season, male palm cockatoos employ a clever technique to attract a female. The male makes a drumstick from a small twig, which he trims to just the right shape. He then clasps it in his foot and beats

it against the trunk of a hollowed nesting tree, creating a loud noise that can be heard up to 100 metres away.

The female watches the male's performance carefully. If she is interested, she will inspect the nest, give her approval and fly away with her new mate. After mating, the female lays a single egg, which hatches out a month later.

WITH THE START of the monsoon season, a period of heavy rain, a frilled lizard leaves the treetops to lay her eggs in the ground. At the

first sign of danger, she runs to a high spot, opening her mouth and unfurling her bright orange ruff to make herself look as big as possible.

As soon as she decides it is safe again, the female returns to the ground, digs one or two holes, lays her eggs and covers them over with soil.



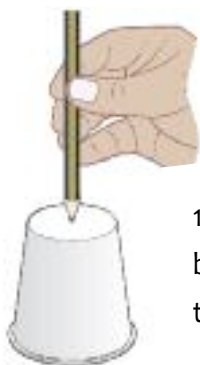
ANTARCTICA

THREE MONTHS AGO, the Emperor penguin colony set off from their inland crèches towards the sea. Along their journey, both the adults and the young moulted. The young penguins, already at their full size, grew an adult coat of waterproof feathers. It will be another year before they develop the yellow-orange markings of their parents.

Having arrived at the coast, the young penguins take to the water for the first time, sliding in on their bellies. Now that they can hunt for themselves, they are finally independent.



THINGS TO DO: MAKE A BIRD FEEDER



1 Using a sharp pencil, make a hole in the base of a yogurt pot. Thread a piece of string through the hole and knot it inside the pot.

2 For your mix you will need lard, birdseed, raisins and peanuts (not salted or roasted).



3 Cut the lard into blocks and leave it out of the fridge to soften for an hour or two.

4 Mix the ingredients together in a bowl.

Give the birds in your area a helping hand this winter by making a bird feeder.

5 Put the mixture into the yogurt pot and pack it down firmly.

6 Leave the feeder in the fridge for the mixture to set.

7 Tie the feeder to a branch. Always make sure feeders are out of the reach of cats and dogs.



8 See what birds come to your feeder. How many different species can you spot?

9 You could also put out a bowl of water. Birds will use it for drinking and may wash themselves in it, too.



THINGS TO DO: LOOKING AT EVERGREENS

Conifers are evergreen trees with long, narrow leaves, called needles. The needles are tough and can survive wind, frost and long periods of drought. This means that conifers can grow in areas where the climate is hot and dry.



1 Look for conifers, such as firs, pines and spruces, in your park or garden. If you get a Christmas tree, that will be a conifer, too.

2 Scrape the surface off one pine needle using a fingernail.

3 Beneath this waxy surface there is a sticky liquid that nourishes the tree during the winter. You will be able to see this through a magnifying glass.



NATURE WATCH



Holly berries 10



Mistletoe 20



A teasel head 30



Bark that has been nibbled by animals 40



An owl 50

See how many of these things that typically happen in December you can spot. Award yourself the points on the right!

