

**THE
NATURE YEAR**



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THE WORLD IN OCTOBER

AUTUMN comes to the northern hemisphere while the southern half of the world sees the arrival of spring. In northern woodlands, the falling temperatures trigger trees to shed their leaves.



As summer in the northern hemisphere fades, the leaves on some trees change colour. Greens turn to yellows, reds and browns as nutrients seep back into the tree. Finally the leaves die and drop off. The tree then enters a sleep-like state in order to save energy over the cold winter months.

A grey squirrel gathers acorns and nuts, which it stores away for the winter months by burying them. Should it fail to return to an acorn, or forget where it was buried, the acorn may start to grow into a tree.

October is the month that animals in Europe, North America and Asia start to prepare for winter: they dig or restore their burrows, find somewhere to hibernate, or, to escape the cold weather altogether, set out on a long journey to warmer lands further south. In parts of Africa and Australia, the onset of the rainy season means there is suddenly more food to eat—a good time for the young to be born. The arrival of warmer weather in the southern spring prompts the animals of Antarctica to start mating, so the young emerge into the world when food is abundant in the summer. Courtship begins in earnest.



A giraffe tends her newborn calf on the grasslands of East Africa. It is the end of the dry season. Next month the rains will arrive, bringing lush vegetation that the mother giraffe can make into milk for her baby.

ARCTIC

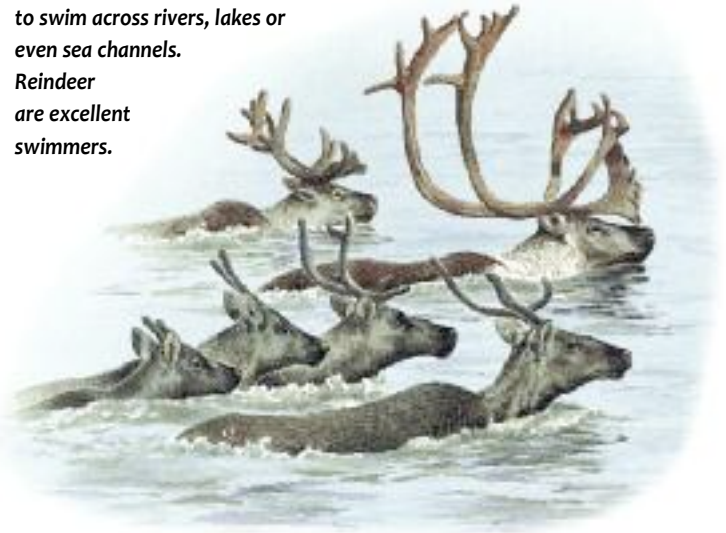
FOR REINDEER, October in the Arctic lands is the mating or “rutting” season. Males, or bulls, battle it out with other bulls to gain the right to mate with females in their “harem”. They first roar at each other in a show of strength. If neither reindeer backs down, the pair lock antlers and try to knock each other over.

Their antlers, which have been growing since the spring, are up to one metre wide. To protect themselves during fights, males grow thick fur around their necks and chests. A victorious bull might mate with up to 15 females.



Travelling reindeer do not hesitate to swim across rivers, lakes or even sea channels.

Reindeer are excellent swimmers.



Every autumn, some reindeer herds travel south to sheltered, warmer forests. This may involve a journey of up to 4000 kilometres. The reindeer often have to swim across wide, icy rivers to reach their destination. The hairs in their coats trap air, which helps them to keep warm and to float more easily. Moving about in herds provides some protection from predators such as wolves.

ARCTIC

A female polar bear rests in her newly-dug maternity den, sheltered from the harsh Arctic winds.

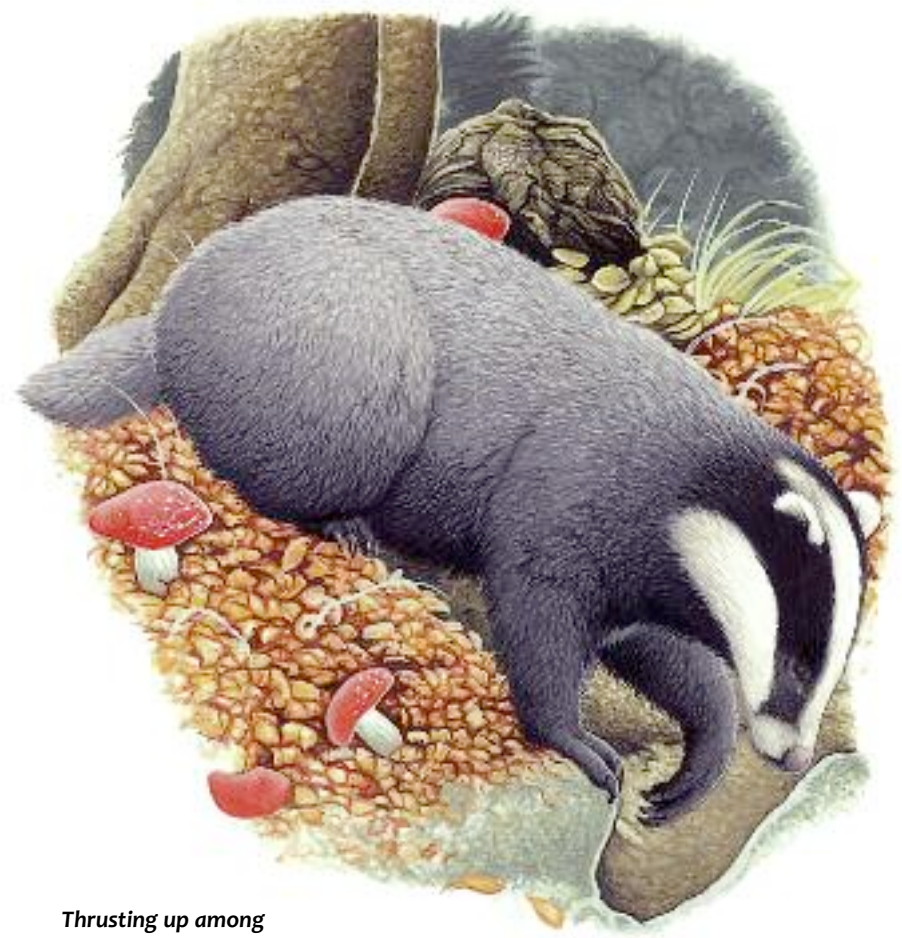


FOR FOUR MONTHS a pregnant polar bear has been eating vast amounts of food on the Arctic ice. Now, as winter sets in, she goes in search of a suitable place to dig her den—usually in a snowdrift on land just a few kilometres from the coast. There she rests, asleep most of the time. Her heartbeat is low, but, unlike true hibernators, her body temperature does not decrease. It is important that she ate enough food during the spring and summer, since she will not eat or drink again until she leaves the den with her cubs in March.

EUROPE

AUTUMN HAS ARRIVED in the woodlands of northern Europe. A badger has spent the summer nights gorging on its diet of earthworms, insects, fruit and small mammals. Autumn fruits and fungi now provide a rich supply of food. By winter, the badger will have built up the fat reserves it needs to survive the cold. It may lose around one-quarter of its body weight over the next few months.

At the same time, a queen bumblebee roams the undergrowth in search of somewhere dark and sheltered where she can sleep through the winter. She finds a cavity beneath a tree root. In spring, she will emerge to start a new colony.



Thrusting up among the dead leaves are mushrooms and toadstools: fungi. They are the fruiting bodies; below ground is a mat of minute threads.

NORTH AMERICA

A MID LOUD HONKS and hisses, a vast flock of snow geese touch down in the Klamath Basin on the southern border of Oregon, USA.

They are on their way from their summer nesting grounds in the Arctic to spend winter in the warmer lands of southern USA and Mexico. Most birds stop at rest areas such as these, where they feed on marsh grasses or even on farmers' grain crops. But some complete their journey in just one flight.

Each autumn, the geese take the same route west of the Rockies, known as the Pacific Flyway. They fly in flocks of up to 1000 birds. Unlike many geese, they do not fly in neat V-shaped formations, but snake across the sky in wavy lines. Families stick together during the journey, honking at each other to stay together.

In the spring, the snow geese will fly back to their Arctic breeding grounds. On their return, they travel different routes and make fewer stops along the way.



On their journey south to warmer climates, thousands of snow geese fly, sleep and feed together in enormous flocks.

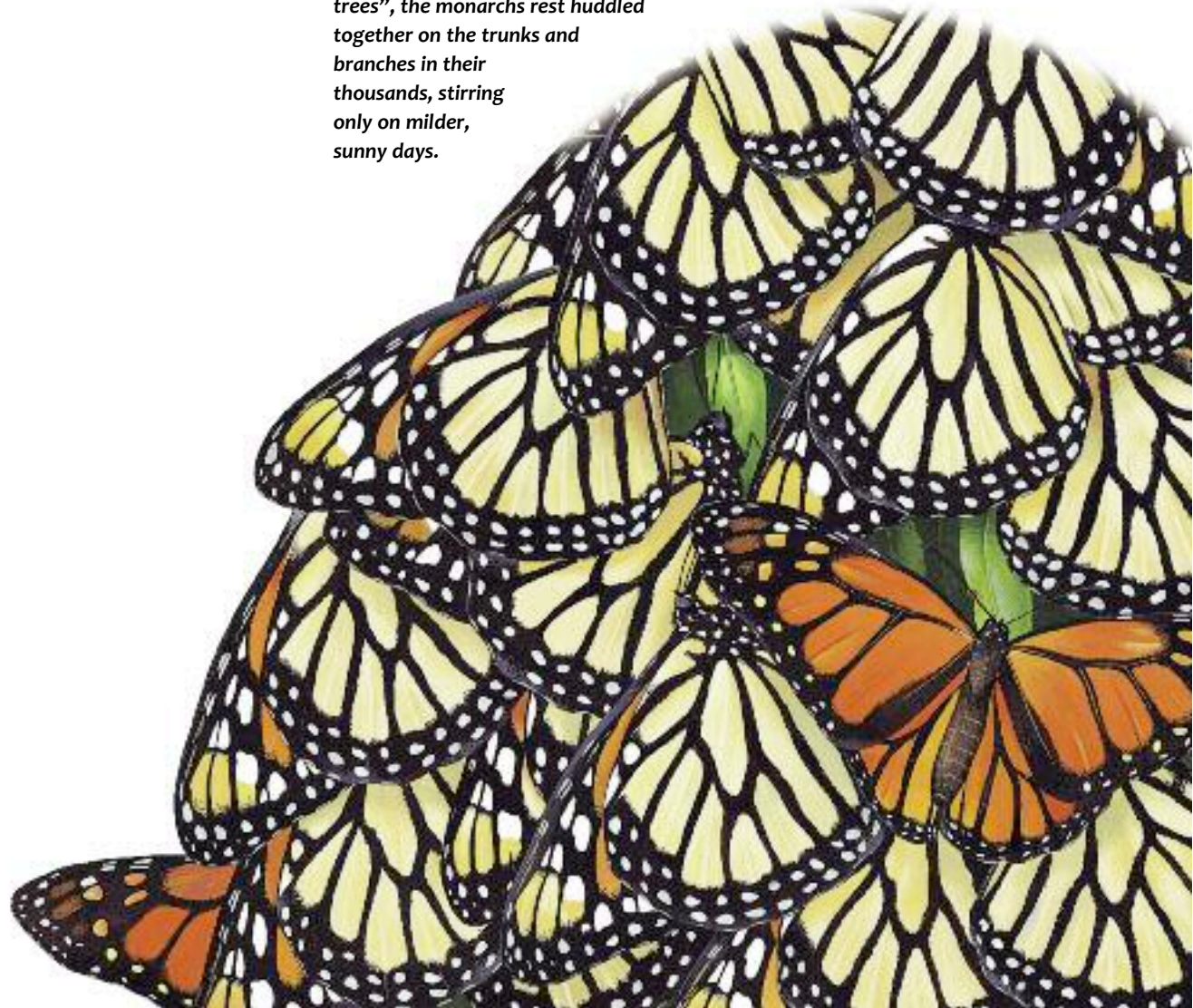
NORTH AMERICA

EVERY OCTOBER, regular as clockwork, trees in parts of southern California and northern Mexico, North America, become cloaked with thousands of monarch butterflies. Hatched out in southern Canada and northern USA, these butterflies have flown thousands of kilometres south to overwinter in a warmer climate. Sleeping by night and flying by day, they stop to feed on nectar to keep up their energy levels for the marathon journey.



The monarch has a wingspan of up to 10 centimetres. Its bright, orange colour is a warning to other animals that it is poisonous, but many butterflies are still picked off by hungry birds on their long journey.

On arrival at their “butterfly trees”, the monarchs rest huddled together on the trunks and branches in their thousands, stirring only on milder, sunny days.



SOUTH AMERICA

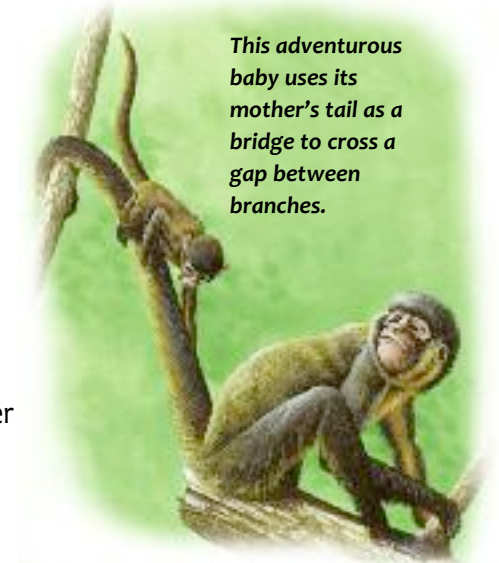
DEEP IN THE RAINFORESTS of South America, a spider monkey descends from the treetops for a drink. Its long, flexible tail can hold all of its weight, and has a strip of hairless skin at its tip, perfect for gripping branches. This means the monkey can hang from its tail to drink.

In the branches above, sits a spider monkey mother with her seven-month-old baby. It was carried on its mother's front until a few months ago. Now the baby mostly rides about on her back. It will remain completely dependent on its mother until it is two years old. Even after this, it will stay close to her side for another two years, or play nearby.

This adventurous baby uses its mother's tail as a bridge to cross a gap between branches.



The tip of a spider monkey's tail has no fur underneath. Instead, it has strong skin like the skin on its hands—perfect for grabbing branches or picking fruit.



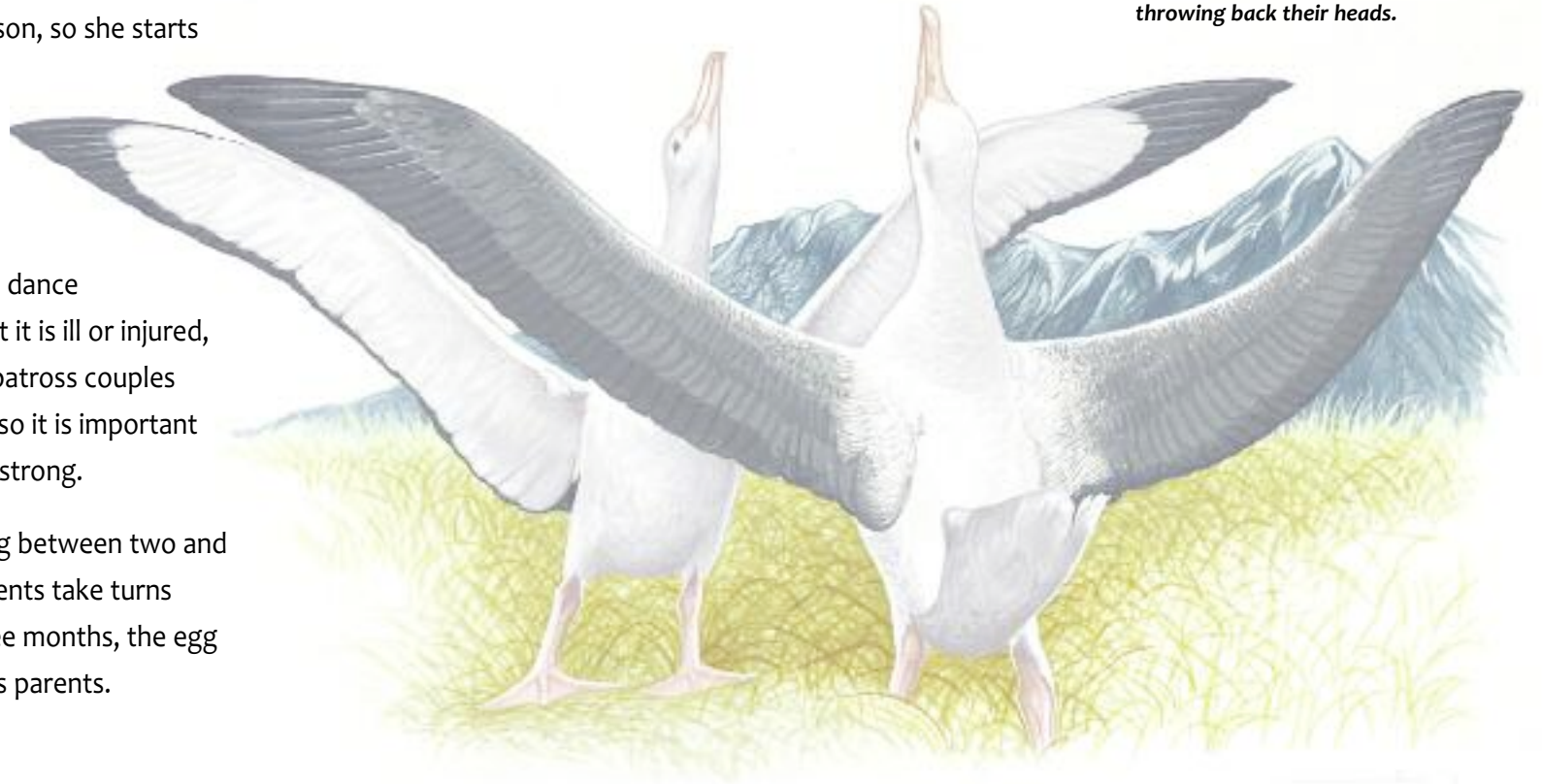
SOUTH ATLANTIC

AFTER NEARLY A YEAR at sea gliding on air currents a wandering albatross lands on an island in the South Atlantic. It is late October and nearly the start of the breeding season, so she starts to look for a mate.

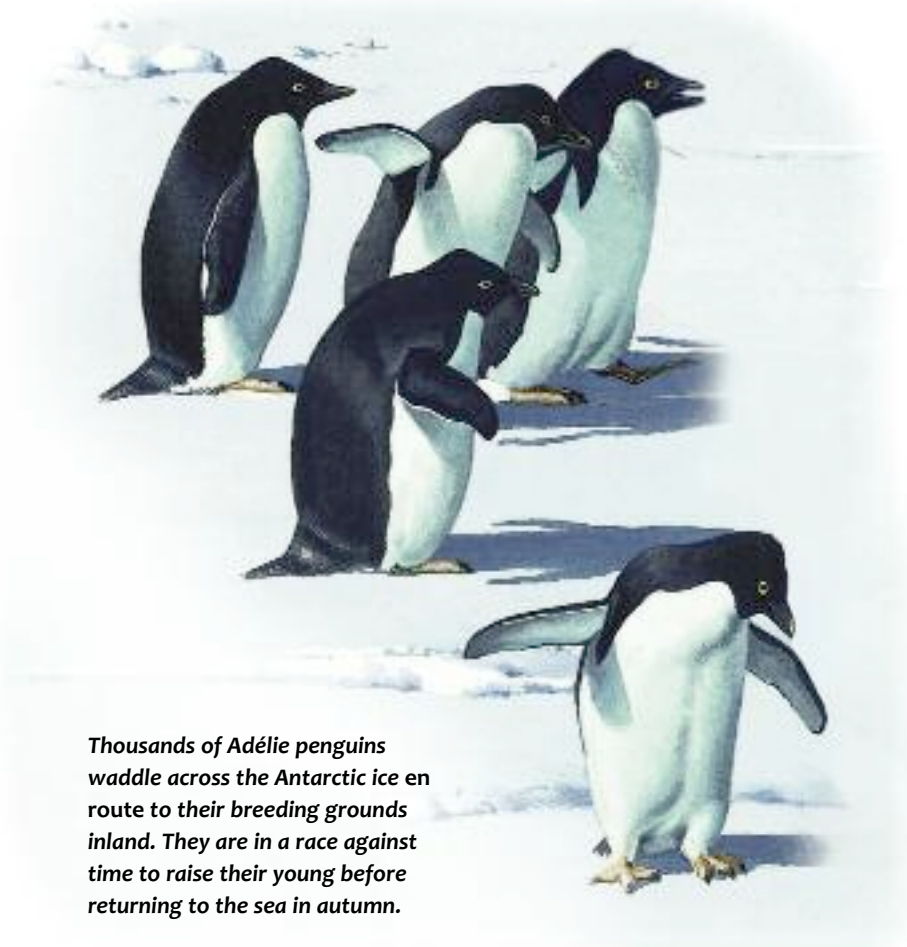
Albatrosses perform an elaborate courtship dance to help pick their mates. If one albatross fails to perform the dance properly, it may be a sign that it is ill or injured, and not a suitable parent. Albatross couples breed once every two years, so it is important that both parents are fit and strong.

The female lays her single egg between two and three months later. Both parents take turns sitting on the nest. After three months, the egg hatches and is cared for by its parents.

Two albatrosses perform an elaborate courtship dance to help them choose a mate. Wings outstretched, they shake their beaks and groan and croak before throwing back their heads.



ANTARCTICA



Thousands of Adélie penguins waddle across the Antarctic ice en route to their breeding grounds inland. They are in a race against time to raise their young before returning to the sea in autumn.

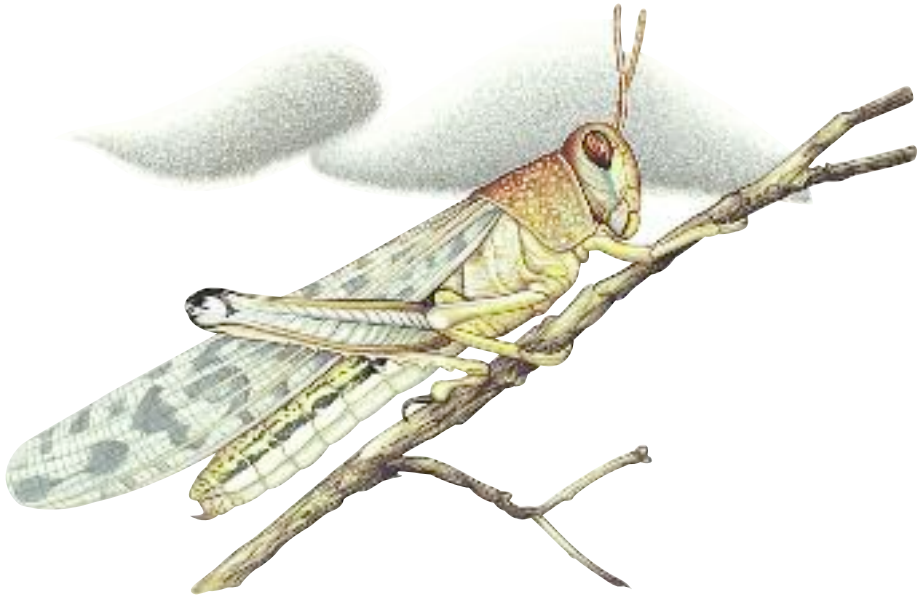
IT IS SPRING in Antarctica. Soon the waters off the coast will be teeming with fish and krill. Adélie penguins must begin breeding now, so that their chicks will have plenty to eat when they hatch out.

The penguins set out across the Antarctic ice for their rookery (breeding grounds), a journey of up to 50 kilometres inland, away from the summer thaw. Progress is slow: an Adélie's stride is short—just 10 centimetres long. But when the ice is smooth, the penguins slide along more quickly on their tummies.

Their destination reached, the courtship begins. The Adélie hen later lays two eggs in a nest of pebbles, before returning to the sea to feed, leaving her mate to keep the eggs warm. He will stand over the eggs for three weeks until his mate returns. They then take turns to sit on the nest until the eggs hatch.

AFRICA

SEPTEMBER RAINS have ended the long drought in northeast Africa. Female desert locusts have laid many more eggs than usual in the damp, sandy soil. A month later, the young, wingless locusts, called hoppers, hatch out—in their millions. The hungry locusts strip the land of all crops and greenery.



As the locusts crowd around clumps of vegetation, their legs rub against each other, triggering the behaviour that makes them swarm. Solitary locusts are camouflaged, but swarming locusts, protected by their vast numbers, moult to reveal bright colours. A swarm of up to 50 *billion* locusts are swept across the countryside by the westerly winds. This is bad news for farmers like those from this boy's village.

AUSTRALIA

WITH THE ARRIVAL of spring in the desert of Western Australia—and the only rains this region will see all year—the normally barren landscape

suddenly bursts into flower.

The plants mature very quickly and drop their seeds all in a few weeks. Brought out by the bright colours and the strong scents, birds and insects sip the nectar. At night, mouse-sized honey possums join in the feast. They are one of the very few mammals that lives only on nectar and pollen. Clinging to eucalyptus shoots by its tail and toes, they dip their long, bristly tongues into the flowers.



THINGS TO DO: MAKING SPORE PRINTS

Before you start this activity, please remember that some fungi (also called mushrooms or toadstools) are poisonous!

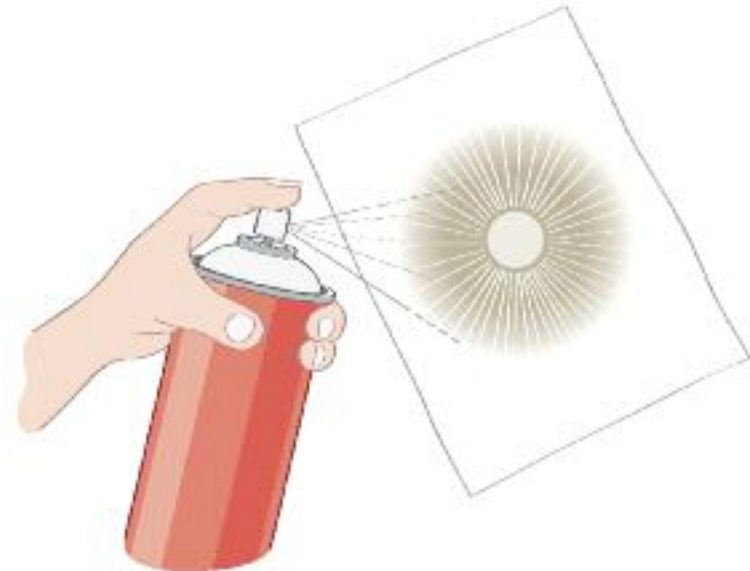
A dust-like powder, called spores, is scattered by fungi. These spores can grow into new fungi. You can make a print of the spores in this simple activity.

1 Place an edible mushroom cap on to a piece of paper and leave overnight.



2 In the morning, lift the mushroom cap up very carefully. You will see that it has left patterns of spores on the paper.

3 The spores can easily fly off or smudge. To stop this happening, spray them gently with hairspray. Then stick it in your notebook.



THINGS TO DO:

PRESSING AUTUMN LEAVES

Fallen leaves cover the ground during October. Try and find as many different leaves as you can. Press the leaves in a big, heavy book (phone books work well) for 2-3 days, then stick them on to a piece of paper. You can use clear contact paper to fix them into position. Then write down the details about the tree from which the leaf came.



NATURE WATCH



Fallen leaves 10



Mushrooms and toadstools 20



Birds flying in V-formation 30



Nibbled nuts and acorns 40



A fresh burrow 50

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

