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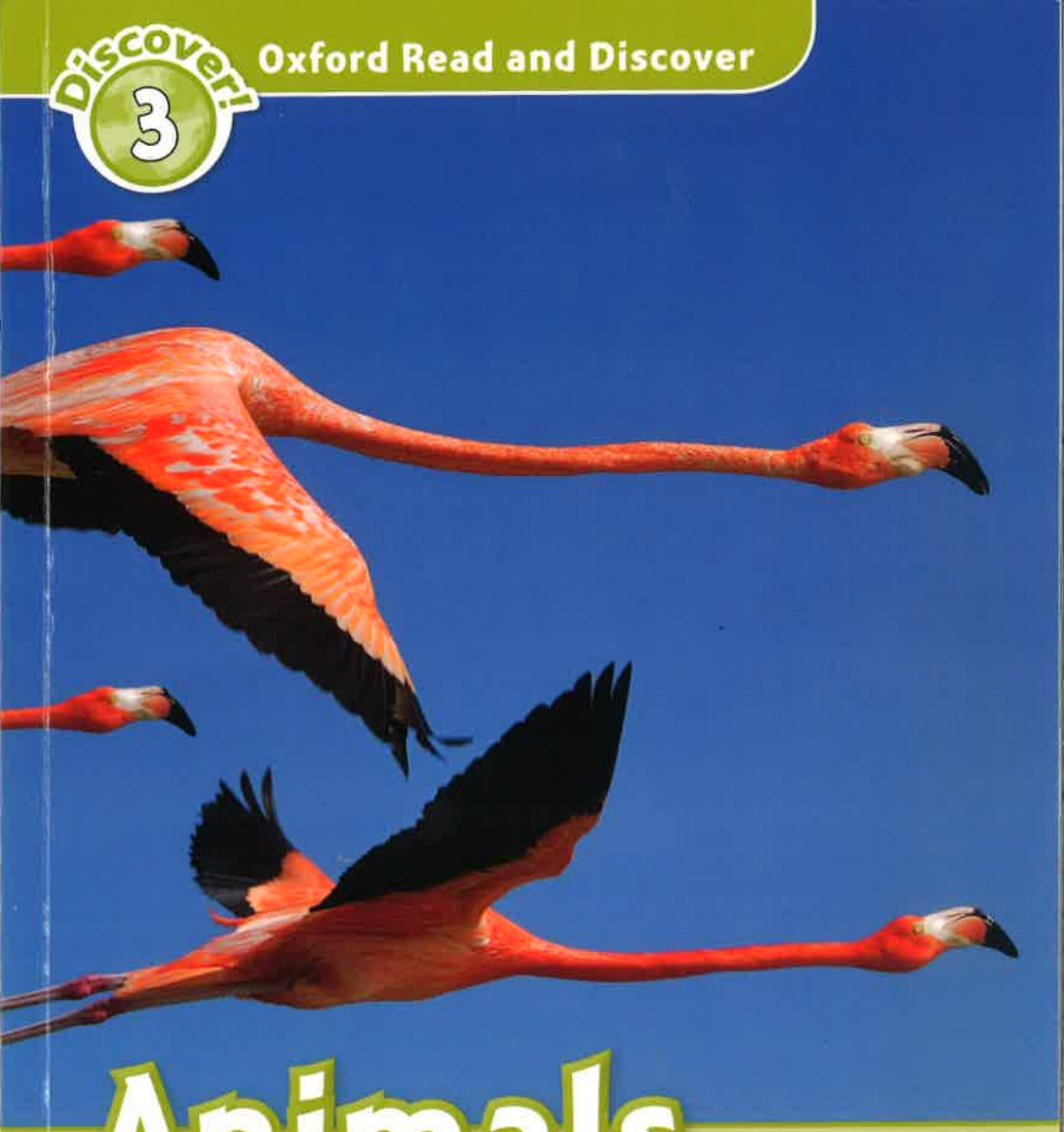

Animals In the Air

Discover! 3

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Animals In the Air

Robert Quinn

Contents

OXFORD
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Great Clarendon Street, Oxford OX2 6DP

Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide in

Oxford New York

Auckland Cape Town Dar es Salaam Hong Kong Karachi Kuala Lumpur Madrid Melbourne Mexico City Nairobi New Delhi Shanghai Taipei Toronto

With offices in

Argentina Austria Brazil Chile Czech Republic France Greece Guatemala Hungary Italy Japan Poland Portugal Singapore South Korea Switzerland Thailand Turkey Ukraine Vietnam

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First published 2011

2021

19

ISBN: 978 0 19 464385 6

An Audio Pack containing this book and an Audio download is also available, ISBN 978 0 19 402175 3

This book is also available as an e-Book, ISBN 978 0 19 464726 7

An accompanying Activity Book is also available, ISBN 978 0 19 464395 5

Printed in China

This book is printed on paper from certified and well-managed sources.

ACKNOWLEDGEMENTS

Cover: Ardea (flamingo/Thomas Marent)

Illustrations by: Kelly Kennedy pp 7, 9, 10, 13, 15, 17; Ian Moores pp 6, 11, 19, 30, 38; Dusan Pavlic/Beehive Illustration pp 46, 47; Alan Rowe pp 26, 28, 32, 40, 46, 47.

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With thanks to Ann Fullick for science checking

Introduction

We see lots of animals in the air. Many of them have wings and can fly, like birds, butterflies, and bats. Other animals can jump into the air, like frogs and kangaroos.

What animals can you see here?
Which animals can fly?
Which animals can jump?

Now read and discover more about animals in the air!

1 Animals That Fly

A Bee Collecting Nectar

Many animals fly because it helps them to stay safe, and they can move around fast to find food. For example, bees fly to collect nectar from flowers. Then they use the nectar to make honey.

An Owl Hunting a Mouse

Some animals fly to hunt other animals, so that they can eat them. For example, owls fly to hunt smaller animals, like mice.

Doves Escaping From a Jackal

Some animals fly to stay safe from other animals that want to eat them. For example, small birds fly to escape from cats and dogs.

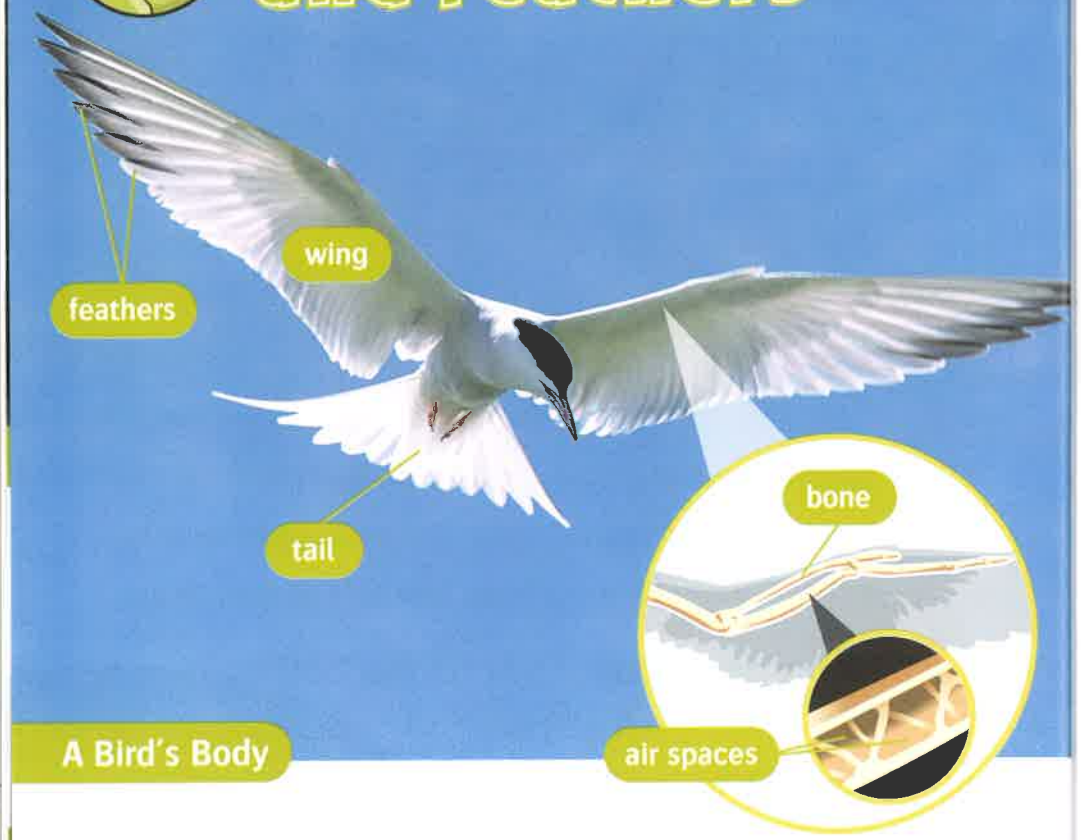
Many birds make their homes in tall trees, where they are safe. Some birds, like storks, make their nests in high places, like the top of tall poles or buildings.

Discover!

Some storks make very big nests. The nests can be 2 meters across.

Go to pages 24–25 for activities.

2 Wings and Feathers



A Bird's Body

Birds have many small feathers on their body. The feathers keep birds warm and dry. Most birds also have longer feathers on their wings and tail. These are called flight feathers because they help birds to fly. Birds have very thin bones with air spaces inside. The bones are very light, so it's easy for birds to fly.

An Andean Condor

A Hummingbird

Some birds have very big wings. The Andean condor is one of the biggest flying birds in the world. It can have a wingspan of 3 meters.

Other flying birds are small, with short wings. Some hummingbirds have a wingspan of only 6 centimeters.

Discover!

The biggest flying bird was the Giant Teratorn. It lived about six million years ago and it had a wingspan of up to 7 meters!

Go to pages 26–27 for activities.

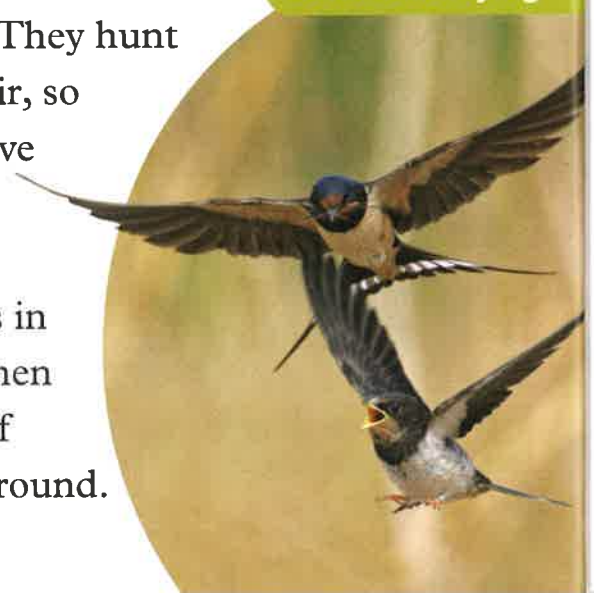
3 Amazing Fliers

A Peregrine Falcon Diving

Most birds can fly, and some of them are amazing fliers! The fastest bird in the world is the peregrine falcon. When it's diving straight down, a peregrine falcon can fly at more than 200 kilometers per hour!

Swallows are really amazing fliers. They hunt insects in the air, so they need to dive and turn very fast. It's fun to watch swallows in the evening, when there are lots of insects flying around.

Swallows Flying



Bar-Tailed Godwits

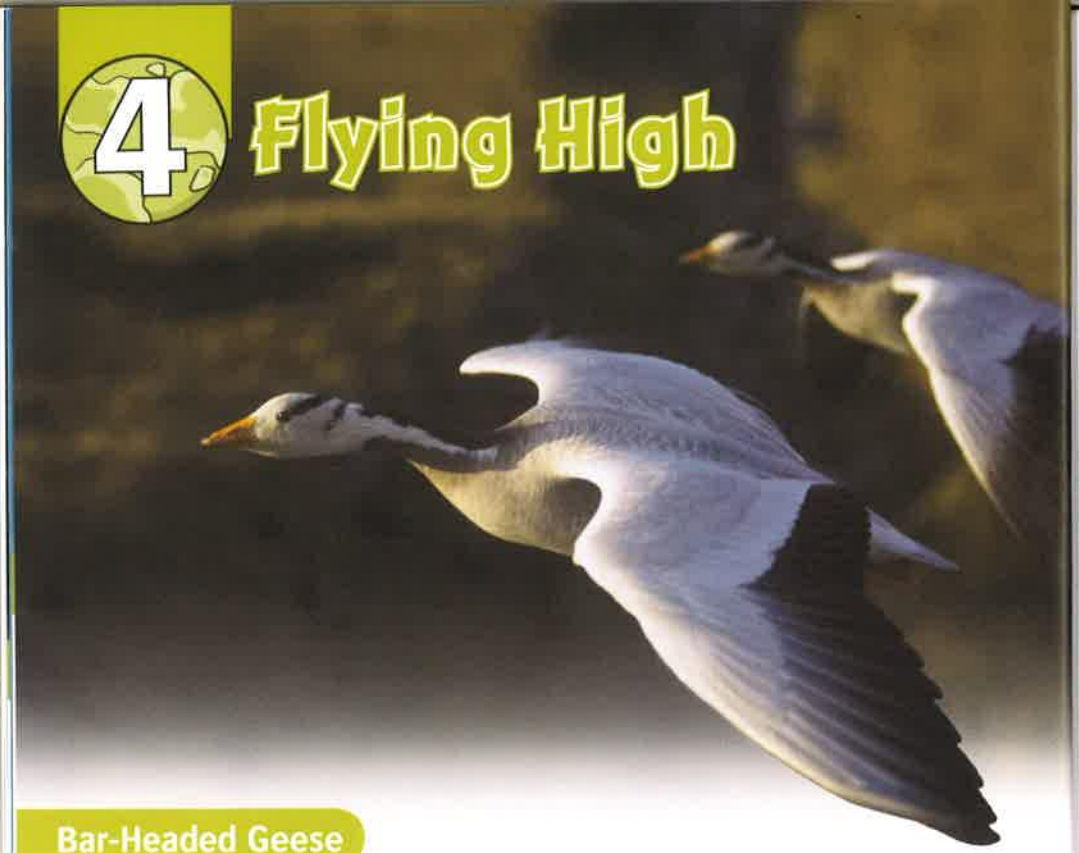
Some birds make amazing journeys to find food, or to travel to a place to have their babies. Bar-tailed godwits fly all the way from New Zealand to Alaska – that's about 16,500 kilometers! The journey only takes about one week, with a short stop in China to rest and eat.

Discover!

Swifts are small birds that spend most of the time flying. They can even sleep in the air!

Go to pages 28–29 for activities.

4 Flying High



Bar-Headed Geese

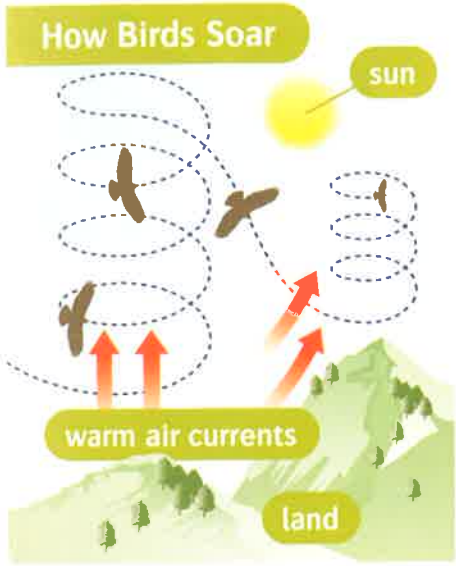
Some birds, like bar-headed geese, fly very high. Bar-headed geese can fly over the highest mountains in the world – the Himalayas. Some of these mountains are more than 8,000 meters high.

Discover!

Ruppell's vultures can fly at more than 11,000 meters high. That's higher than many planes!

An Eagle Soaring

Some birds, like vultures, condors, and eagles, don't move their wings a lot when they are flying high. They soar on warm air currents that are moving around. Birds that can soar have long, wide wings.



It's easier for birds to soar when it's sunny. The sun makes the land warm. Then the land makes the air warm, and warm air currents go up. Birds go up on the air currents, and they soar in circles, high in the air.

Go to pages 30–31 for activities.

5 Insects That Fly

The first flying animals in the world were insects. They lived about 350 million years ago! Today, most insects have wings and can fly. Their wings grow from their thorax – the middle part of their body.

Many insects, like bees and butterflies, have four wings. Some insects, like flies and mosquitoes, only have two wings.

Insects with Two Wings

Insects with Four Wings

An Atlas Moth

Some of the biggest flying insects today are atlas moths, from Southeast Asia. These moths have a wingspan of about 30 centimeters.

Some of the fastest flying insects in the world are dragonflies. Green darner dragonflies can fly at more than 50 kilometers per hour.

Discover!

The biggest flying insects were Meganeura dragonflies. They lived about 300 million years ago and had a wingspan of about 70 centimeters!

Go to pages 32–33 for activities.

6 Flying Together

Many birds fly together in big groups called flocks. Some small birds fly in flocks to stay safe from hunting birds, like eagles and falcons. Other birds, like ducks and geese, fly in flocks when they move to a new place.

Starlings are small birds that usually fly in small flocks. These flocks sometimes join together to make big flocks with thousands of starlings. They look like dark clouds!

A Flock of Starlings

A Swarm of Locusts

Some flying insects, like bees, moths, and locusts, fly in big groups called swarms. Sometimes there are millions of insects all together! When locusts are very hungry, they eat all the green plants that they find. Swarming locusts are a big problem for farmers.

Discover!

Bees only fly in swarms when they are moving to a new home. Special scout bees show the swarm where to go.

Go to pages 34–35 for activities.

7 Jumping Minibeasts

Some minibeasts, like grasshoppers, can jump really well. Grasshoppers are good jumpers because they have strong back legs. They can jump 20 times their body length.

Fleas are minibeasts that live in the hair of many animals, like dogs and cats. Fleas can't fly, but they can jump about 100 times their body length! That's how fleas move from one animal to another.

Grasshoppers

A Flea

A Jumping Spider

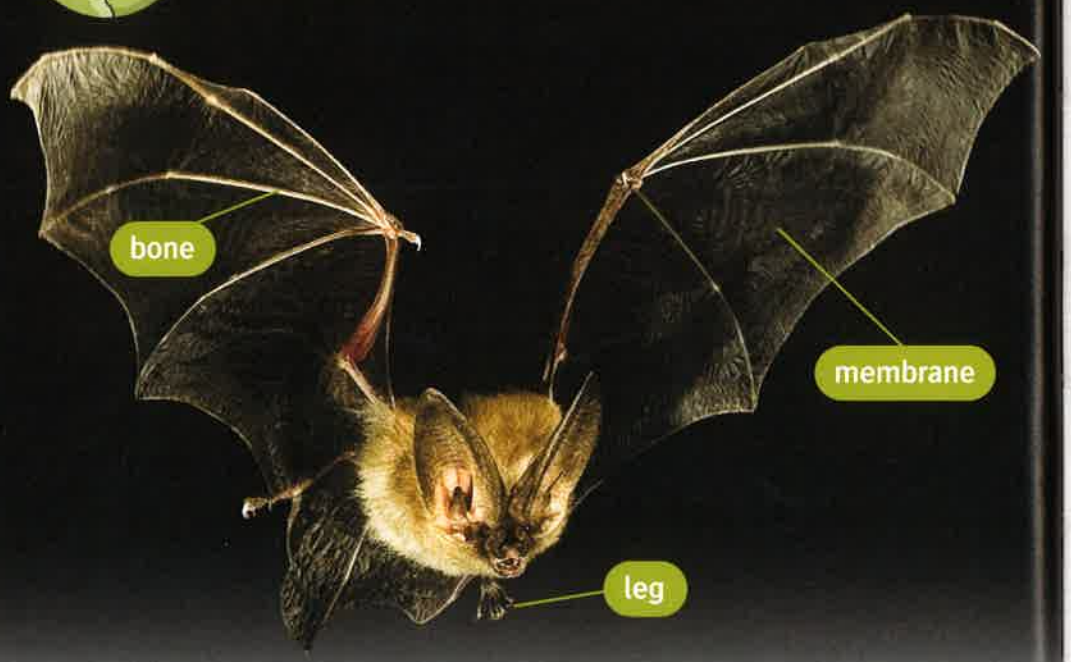
All spiders can make silk. Many spiders make silk webs to catch insects. Jumping spiders don't make webs – they wait for insects and then they jump on them. They jump from a silk thread. These spiders can jump about 80 times their body length.

Discover!

Springtails are minibeasts with a special tail that works like a spring. Springtails don't have wings, so they use their tail to push themselves into the air!

Go to pages 36–37 for activities.

8 Bats in the Air

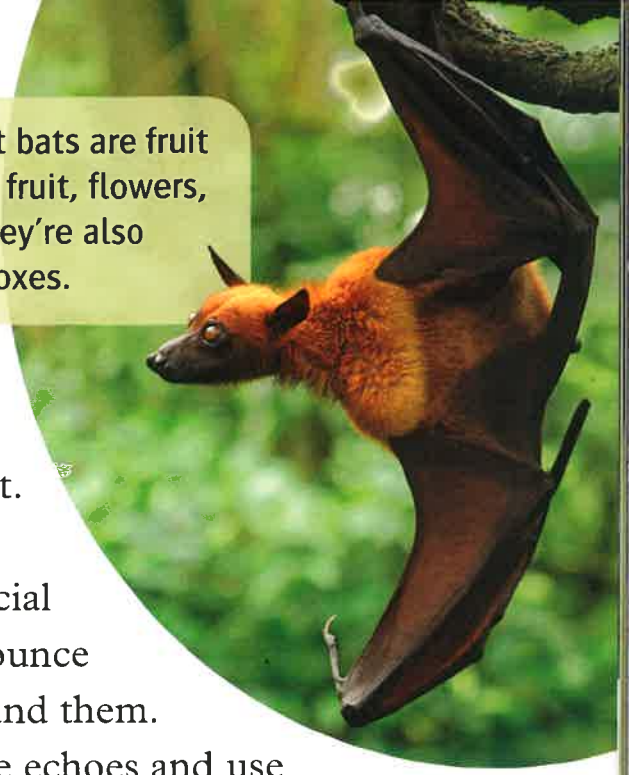


Did you know that bats are the only mammals that have wings and can fly? Their wings have long, thin bones that look like fingers. There's a membrane of skin between the bones.

Many bats have a membrane between their legs, too. Some bats use this membrane as a net to catch insects in the air.

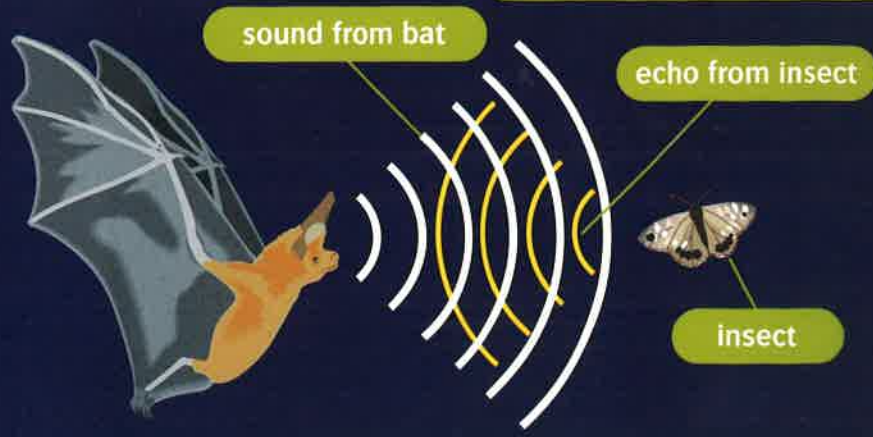
Discover!

The biggest bats are fruit bats. They eat fruit, flowers, and pollen. They're also called flying foxes.



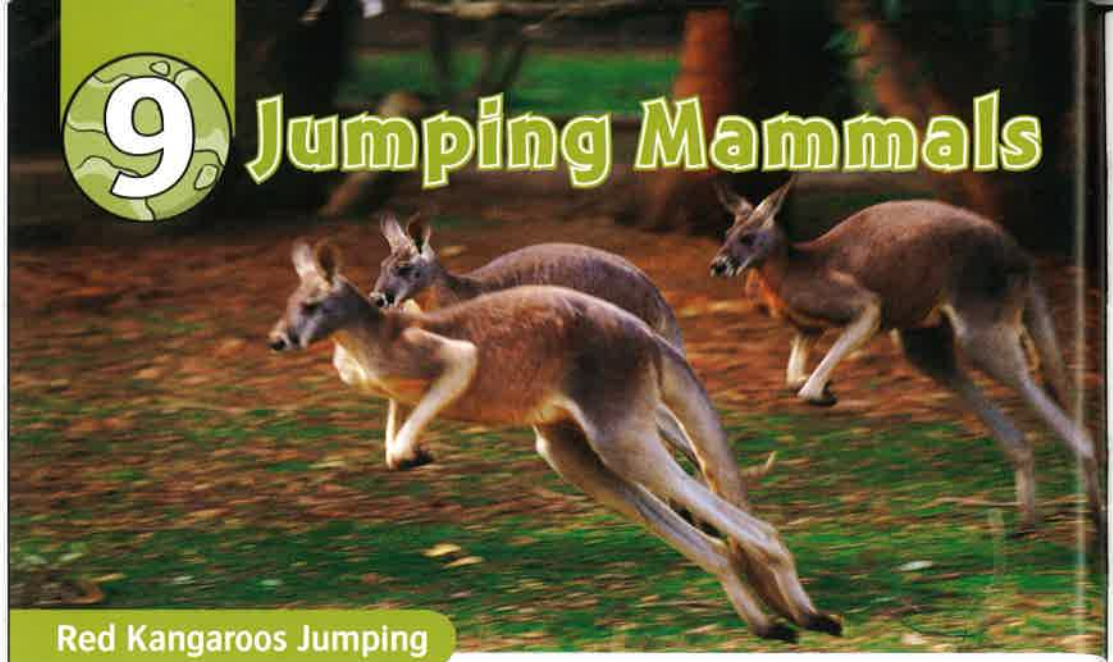
Bats usually rest in the day and fly at night. When they fly, bats make special sounds that bounce off things around them. Bats hear these echoes and use them to find their way at night. This is called echolocation. Bats also use echolocation to find insects and other food to eat.

How Echolocation Works



Go to pages 38–39 for activities.

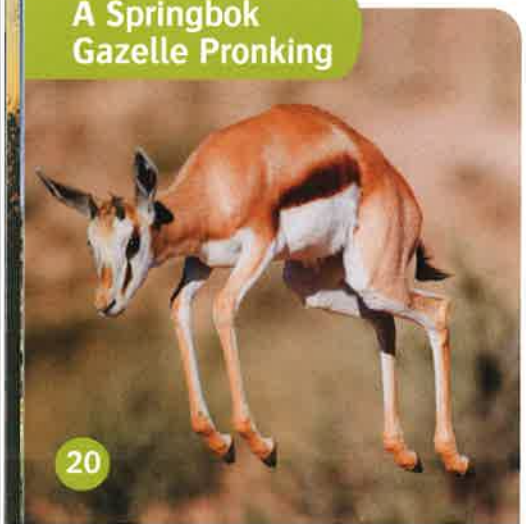
9 Jumping Mammals



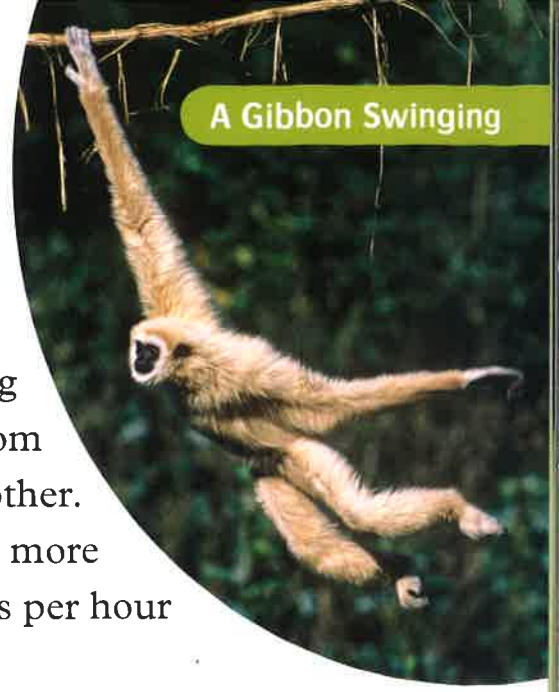
Red Kangaroos Jumping

Some mammals are excellent jumpers. This helps them to stay safe from people and other animals. Red kangaroos can jump over fences that are 3 meters high. They are also fast – they can jump at more than 50 kilometers per hour!

A Springbok Gazelle Pronking



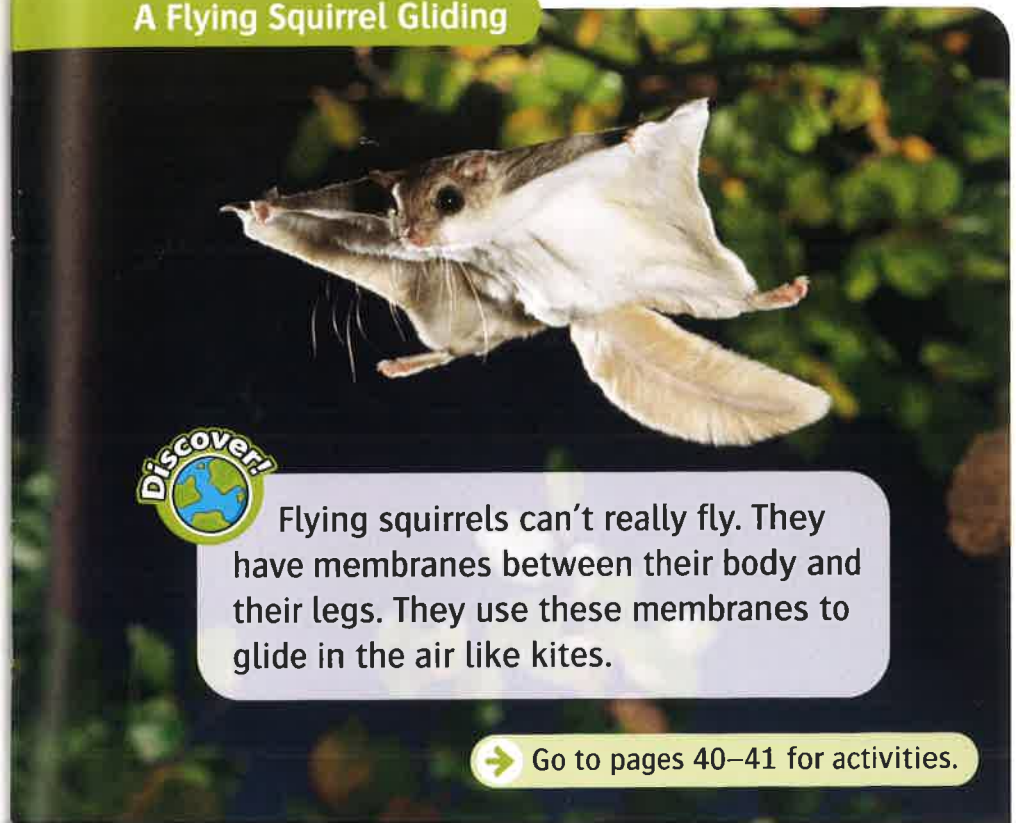
Springbok gazelles can jump very far. They can travel more than 15 meters in one jump! Springbok gazelles can also jump straight up in the air. This is called pronking.



A Gibbon Swinging

Some mammals, like gibbons, are good at jumping and swinging between trees. Gibbons can swing about 9 meters from one branch to another. They can travel at more than 30 kilometers per hour in this way.

A Flying Squirrel Gliding

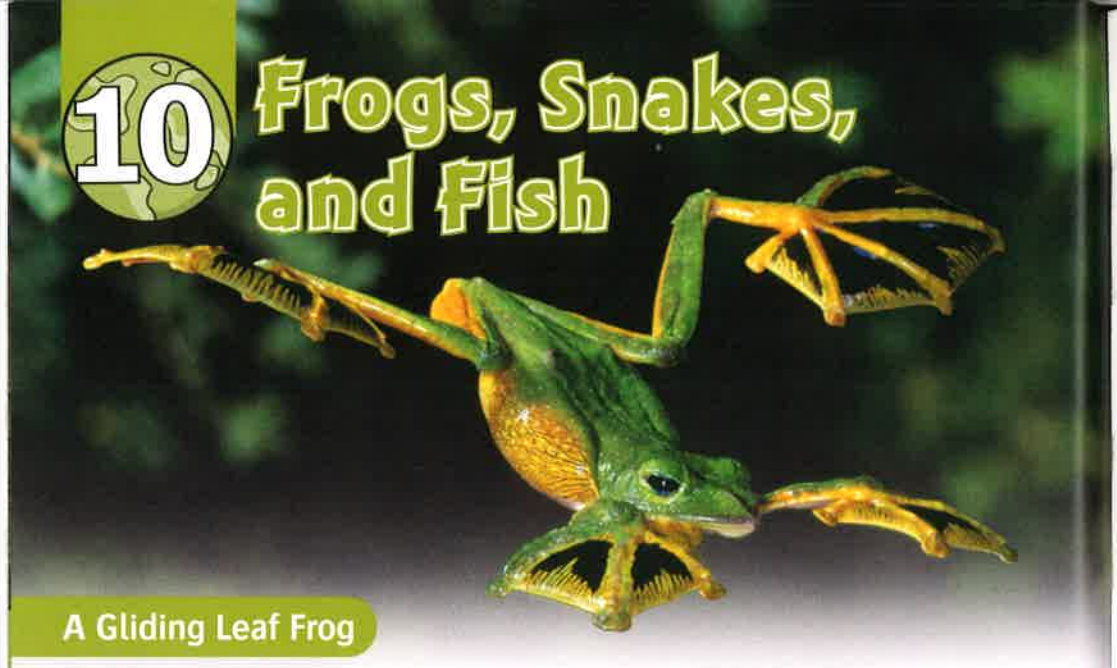


Discover!

Flying squirrels can't really fly. They have membranes between their body and their legs. They use these membranes to glide in the air like kites.

Go to pages 40–41 for activities.

10 Frogs, Snakes, and Fish



A Gliding Leaf Frog

Amphibians can't fly, but some of them can glide in the air. Gliding leaf frogs have membranes between their fingers and toes. They can use these membranes to glide.

Some reptiles can glide, too. Paradise tree snakes make their body very wide and flat, and they can glide about 100 meters through the air!

A Paradise Tree Snake

A Flying Fish

We sometimes see fish in the air, too! Flying fish can jump out of the water and glide for hundreds of meters. Flying fish have big fins that look like wings.

Lots of animals can move around by flying, jumping, and gliding. Look around you today. Do you see any animals in the air?

Go to pages 42–43 for activities.

Picture Dictionary


amphibians


body length


bone


branch


dark


dry


farmer


feather


fence


fin


flat


food


fruit


hair


honey


hunt


insects


land


mammals


mice

million


mountains


nectar


nest


net


plants


pole


pollen


push


reptiles


rest


silk


skin


spring


tail


thorax


warm


web


wing


wingspan