



Oxford Read and Discover

Animal Life Cycles

Rachel Bladon

Read and discover all about amazing animal life cycles ...


- Which animals hatch from eggs?
- What is metamorphosis?

Read and discover more about the world! This series of non-fiction readers provides interesting and educational content, with activities and project work.


Series Editor: Hazel Geatches

Audio CD Pack available

Word count for this reader: 3,437

 **Level 3**
600 headwords

 **Level 5**
900 headwords

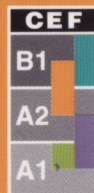
 **Level 4**
750 headwords

 **Level 6**
1,050 headwords

Cover photograph: Nature Picture Library (Mountain gorillas/Andy Rouse)

OXFORD
UNIVERSITY PRESS

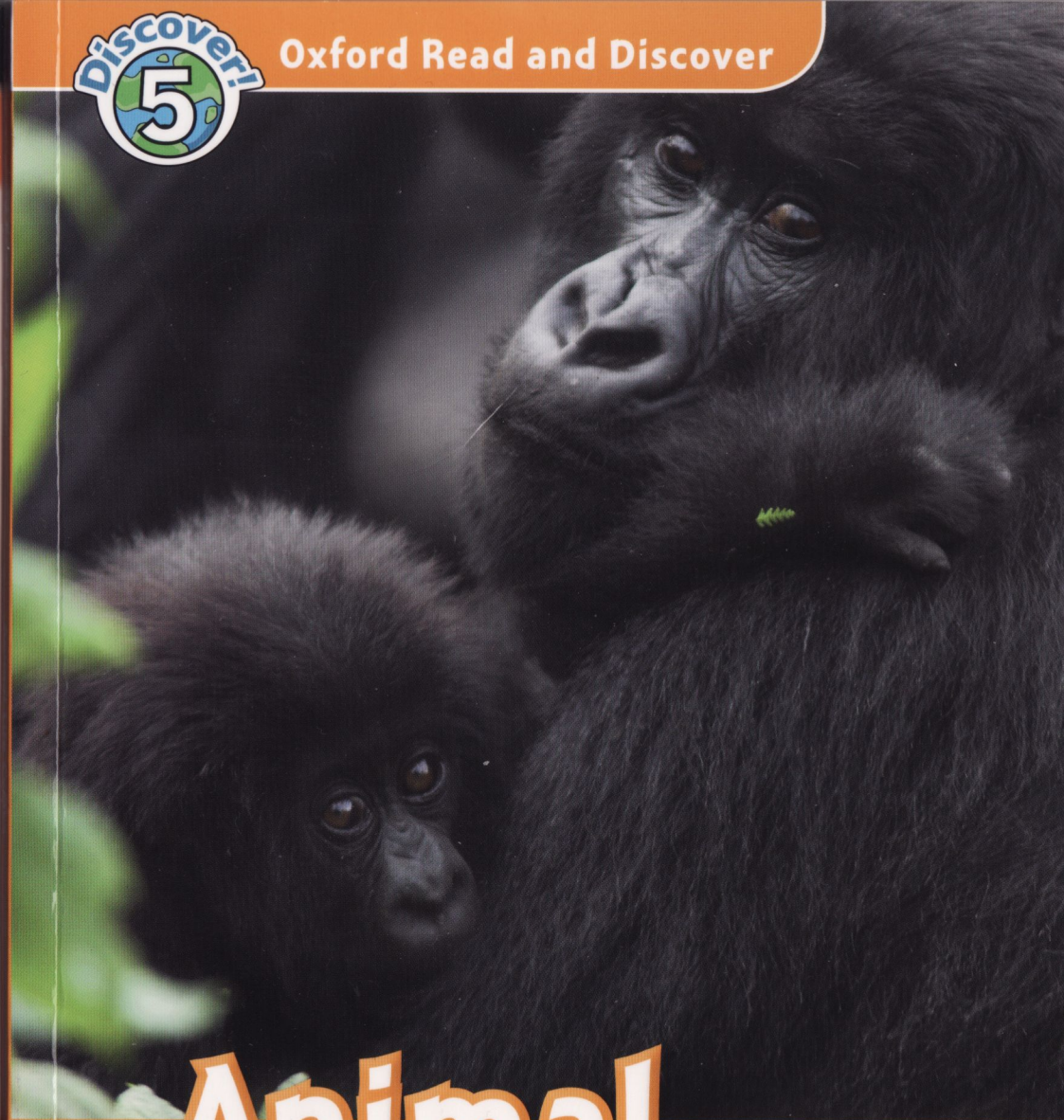
www.oup.com/elt



OXFORD ENGLISH
ISBN 978-0-19-464502-7



Oxford Read and Discover



Animal Life Cycles



Animal Life Cycles

Rachel Bladon

Contents

Introduction	3
1 Life Cycles	4
2 Insects	8
3 Other Invertebrates	12
4 Fish	16
5 Amphibians	20
6 Reptiles	24
7 Birds	28
8 Mammals	32
Activities	36
Projects	52
Glossary	54
About <i>Read and Discover</i>	56

OXFORD

UNIVERSITY PRESS

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

OXFORD and OXFORD ENGLISH are registered trade marks of Oxford University Press in the UK and in certain other countries

© Oxford University Press 2010

The moral rights of the author have been asserted

Database right Oxford University Press (maker)

First published 2010

2014 2013 2012 2011 2010

10 9 8 7 6 5 4 3 2 1

No unauthorized photocopying

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior permission in writing of Oxford University Press, or as expressly permitted by law, or under terms agreed with the appropriate reprographics rights organization. Enquiries concerning reproduction outside the scope of the above should be sent to the ELT Rights Department, Oxford University Press, at the address above

You must not circulate this book in any other binding or cover and you must impose this same condition on any acquirer

Any websites referred to in this publication are in the public domain and their addresses are provided by Oxford University Press for information only. Oxford University Press disclaims any responsibility for the content

ISBN: 978 0 19 464502 7

An Audio CD Pack containing this book and a CD is also available, ISBN 978 0 19 464542 3

The CD has a choice of American and British English recordings of the complete text.

An accompanying Activity Book is also available, ISBN 978 0 19 464512 6

Printed in China

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

ACKNOWLEDGEMENTS

Illustrations by: Fiammetta Dogi/The Art Agency pp.5, 8; Kelly Kennedy pp.21, 30; Dusan Pavlic/Beehive Illustration pp.19, 43, 46.

The Publishers would also like to thank the following for their kind permission to reproduce photographs and other copyright material: Alamy pp.3 (Michael Dietrich/imagebroker/blue-footed booby), 17 (Poelzer Wolfgang), 22 (Simon Colmer and Abby Rex), 28 (Michael Dietrich/imagebroker); Ardea.com p.12 (Steve Hopkin), 15 (Jean Michel Labat); Corbis p.27 (Jim Zuckerman); FLPA p.13 (Fred Bavendam/Minden Pictures); Getty Images p.8 (Emil von Maltitz/Gallo Images/grasshopper); Nature Picture Library p.3 (Anup Shah/crocodile), 6 (Pete Oxford/tortoise), 9 (Ross Hoddinott/grasshopper), 10 (Nature Production), 14 (Kim Taylor), 18 (Doug Perrine), 19 (Fabio Liverani), 20 (Fabio Liverani), 21 (Paul Hobson), 25 (Anup Shah/crocodile), 30 (David Kjaer), 32 (Terry Andrewartha); NHPA pp.8 (Stephen Dalton/bee larva), 26 (A.N.T. Photo Library); Oxford University Press pp.9 (butterfly life cycle), 34 (gorilla); Photolibary pp.3 (Martin Rugner/age footstock/kangaroo, John Brown/Oxford Scientific/frog), 11 (Hans Pfletschinger/Peter Arnold Images), 16 (Paul Kay/Oxford Scientific), 23 (John Brown/Oxford Scientific), 24 (Paul Freed/Animals Animals), 25 (Zigmund Leszczynski/Animals Animals/snake), 29 (Konrad Wothe/Oxford Scientific), 31 (Eric Baccega/age footstock), 33 (Thorsten Milse/Picture Press), 34 (Martin Rugner/age footstock/kangaroo), 35 (Peter Weimann/Animals Animals); Science Photo Library p.6 (Adrian Bicker/mayfly); Still Pictures p.7 (McPhoto).

With thanks to: Ann Fullick for science checking



Introduction

Animals grow and change during their life. To produce young, some animals have babies, and others lay eggs. These young animals then grow up and produce young, too. This journey from being born to producing young is called a life cycle. Animal life cycles are amazing.

How do male birds find a mate?

How big is a baby kangaroo when it's born?

How does a crocodile carry her babies?

What does a tadpole grow into?



Now read and discover more about some amazing animal life cycles!

1

Life Cycles

There are millions of different species of animal in the world. Some animals, like the blue whale, are very big. Others are so small that we almost can't see them. These animals all have very different life cycles.

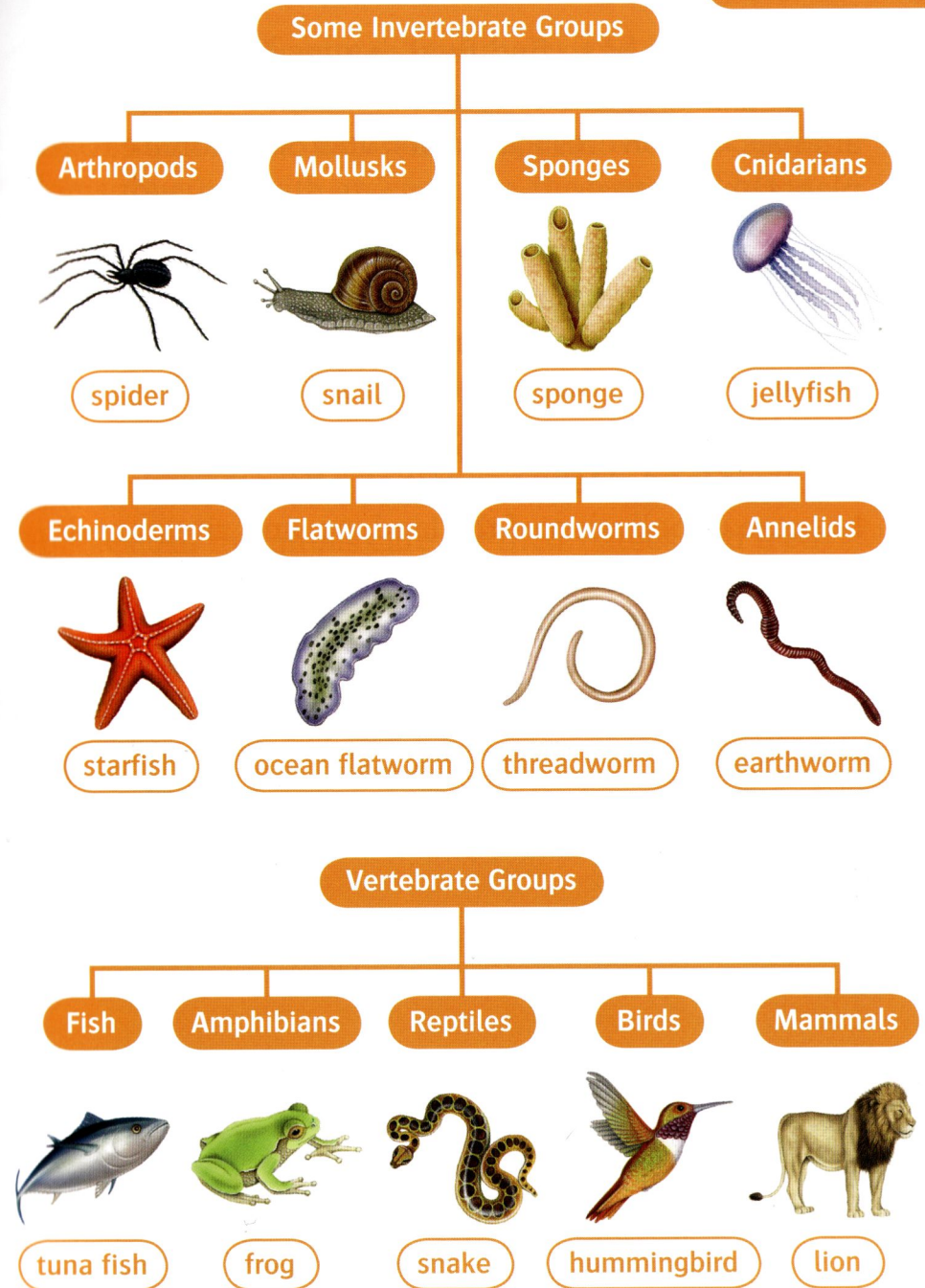
Animal Groups

Scientists put animals into groups. The animals in each group are the same in many ways, and they often have very similar life cycles. The two biggest animal groups are invertebrates and vertebrates.

Invertebrates are animals that have no backbone. More than 95% of the animal species in the world are invertebrates, and most of them are very small. There are many different groups of invertebrates. The biggest group is called arthropods. Insects, spiders, and animals like crabs that have a hard shell, are all arthropods.

Animals that have a backbone are called vertebrates. Only a few percent of the animals in the world are vertebrates, and most of them are much bigger than invertebrates. Because of this, we see vertebrates more often than invertebrates. Scientists put vertebrates into five big groups – they are called fish, amphibians, reptiles, birds, and mammals.

Animal Groups

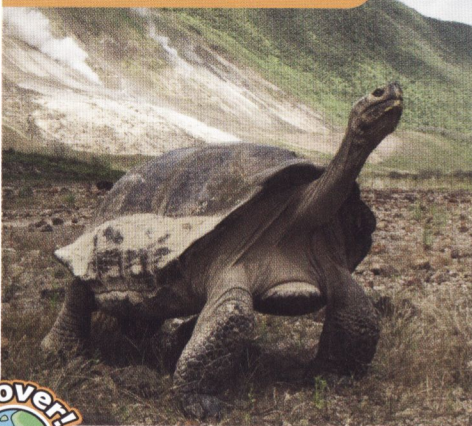


Staying Alive

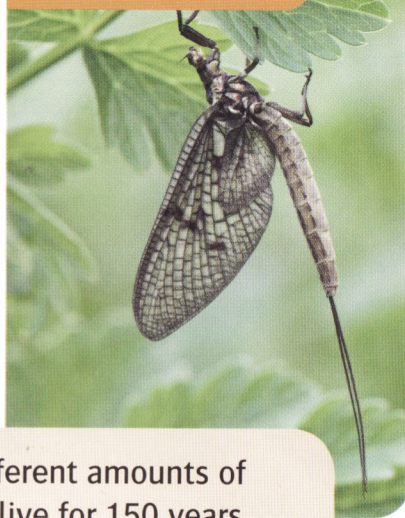
All animals need to find food to stay alive. Some animals are carnivores. This means that they eat other animals. Herbivores eat plants, and omnivores eat plants and animals.

There are many dangers for animals. They have to keep safe from predators – animals that hunt and eat other animals. People hunt birds and other animals. People also cut down trees and build houses and roads on land. When they do this, animals lose their homes and their food. Many animals also become sick or die because of pollution of the land, oceans, rivers, and air. Life is very dangerous for animals. Many animals die before they are old enough to produce young.

A Galapagos Tortoise



An Adult Mayfly



Different animals live for different amounts of time. A Galapagos tortoise can live for 150 years, but an adult mayfly usually lives for just a few hours.

Breeding

Most species of animal have males and females. Males produce sperm, and females produce eggs. Baby animals are made when sperm from the male joins together with an egg from the female. This is called fertilization.

Some animals give birth to baby animals. Other animals, like reptiles and birds, lay eggs. Their babies hatch – they break the egg open and come out.

Most reptiles and birds care for their babies. Most insects and fish do not care for their eggs or their babies. All mammals care for their babies and feed them milk. Some big mammals stay with their babies for many years.

A Tiger Feeding Her Babies



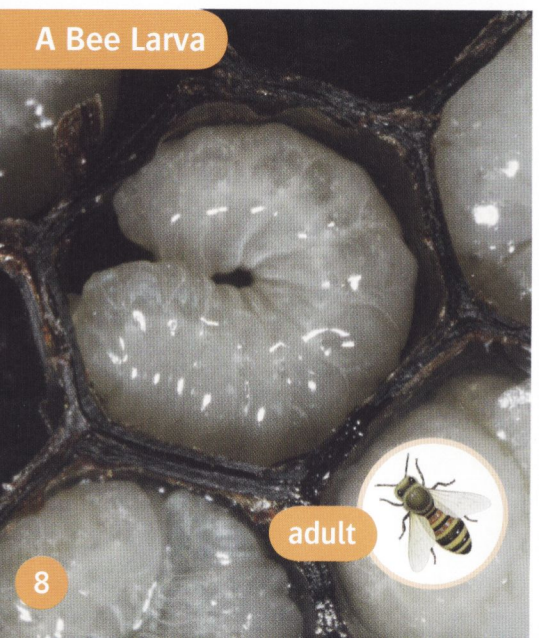
2

Insects

Insects are small animals like butterflies, beetles, flies, bees, and ants. There are more than a million species of insect in the world. Many insects change in amazing ways during their life.

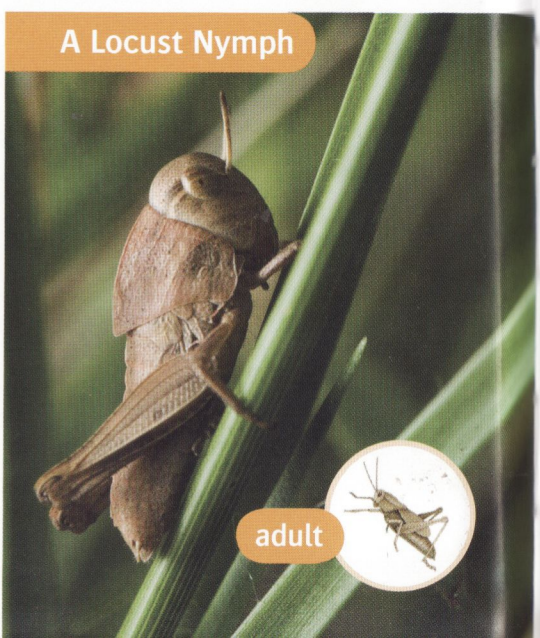
Larvae and Nymphs

Almost all insects start their life in an egg. The young insect grows inside the egg and then it hatches. Some baby insects, like bees, look very different from their parents. These baby insects are called larvae. Other baby insects, like locusts, look more like their parents. These baby insects are called nymphs. Larvae and nymphs are very small when they hatch.



A Bee Larva

adult



A Locust Nymph

adult

Growing Up

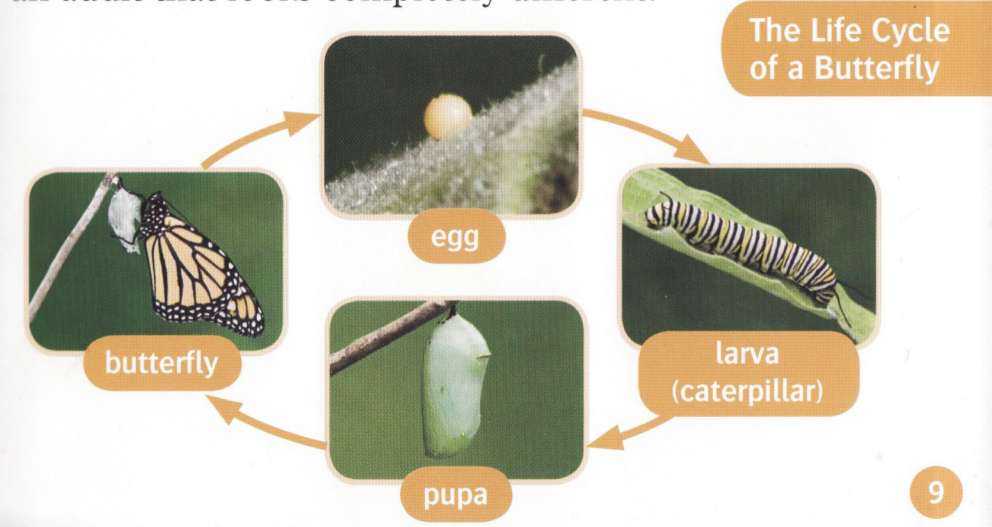
A young insect eats a lot of food and grows very quickly. It has a hard cover, called an exoskeleton. When the exoskeleton is too small for the young insect, it breaks open and comes off. A new exoskeleton grows under the old one. This is called molting.



A Grasshopper Molting

Some insects grow wings that get bigger every time they molt. After the insect molts for the last time, it becomes an adult that can fly and produce young. This is called incomplete metamorphosis.

Most insects change by complete metamorphosis. When the larva is ready to change into an adult, its exoskeleton comes off. Under the exoskeleton there's a pupa – it's like a closed case. Inside the pupa, an amazing change happens. The larva changes into an adult that looks completely different!



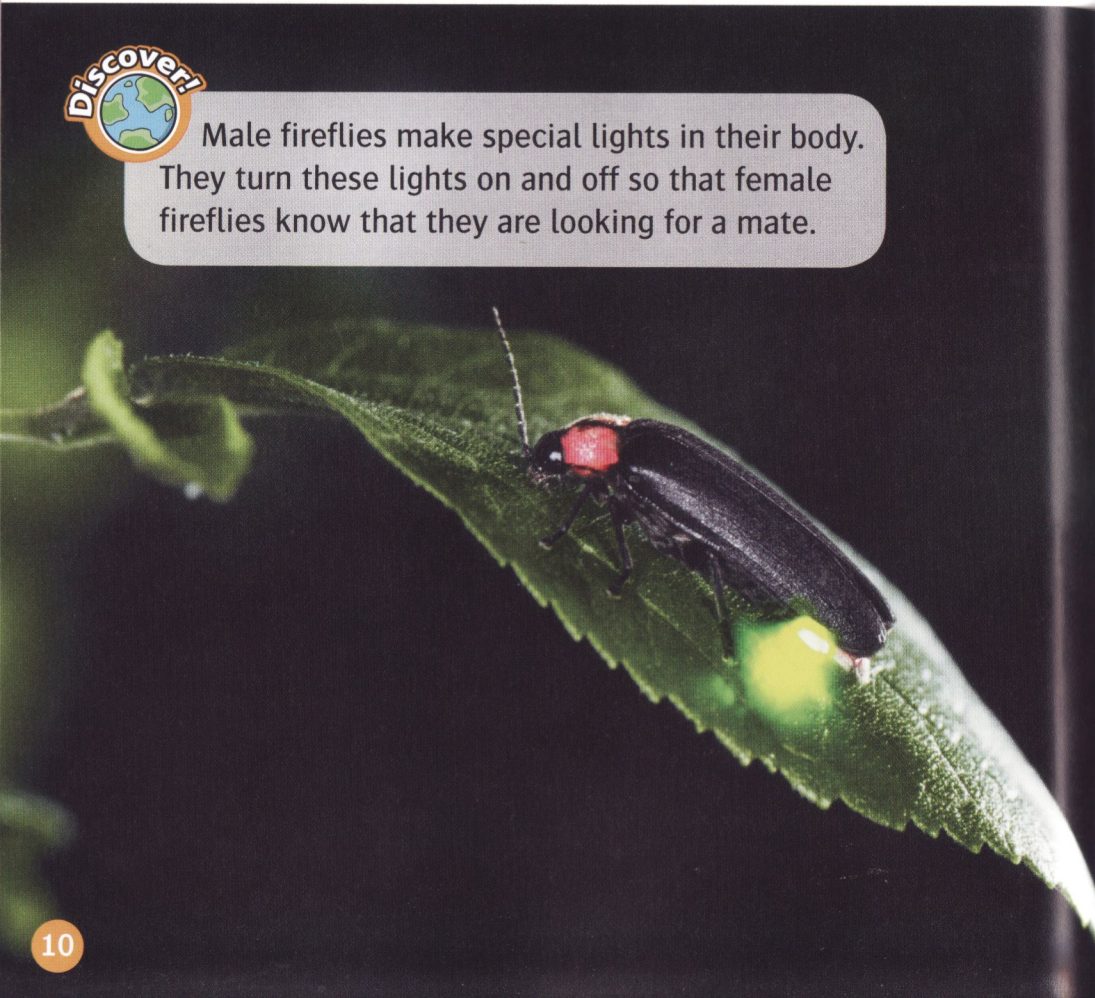
Finding a Mate

When insects become adults, they are ready to breed and produce young. First they need to find a mate. Male crickets, cicadas, and grasshoppers sing to find females that they can mate with.

Female butterflies and moths produce special chemicals called pheromones that have a strong smell. Male butterflies and moths can smell the pheromones from up to 2 kilometers away. They then fly toward the smell.



Male fireflies make special lights in their body. They turn these lights on and off so that female fireflies know that they are looking for a mate.



A Beetle with Her Eggs



Laying Eggs

Some insects only lay a few eggs during their life, but others lay thousands. Many insects are careful to keep their eggs safe. The cardinal beetle makes a hole in dead wood and lays her eggs inside. When the eggs hatch, you can't see the larvae very well. Cockroaches lay their eggs in a special case, and beetle eggs are usually yellow, green, or black so that they are camouflaged. When these insect eggs hatch, the life cycle starts again!



Termite queens lay up to 30,000 eggs every day!

3

Other Invertebrates

There are many other groups of invertebrate, and they all have very different life cycles. Did you know that earthworms, octopuses, spiders, and lobsters are all invertebrates?

Earthworms

All earthworms lay eggs, because they are hermaphrodites. This means that they all have male parts that produce sperm and female parts that produce eggs, but they cannot fertilize their own eggs. After earthworms mate, their bodies make special rings with eggs inside. The ring moves forward over the worm's body and then it comes off. Then the ends of the ring join together. The eggs hatch after about three months, and young earthworms can mate when they are 12 months old.

An Earthworm with an Egg Ring



An Octopus with Her Eggs

Octopuses

Baby octopuses live in the open ocean at first, but when they grow, they move down to the bottom of the ocean. Here they live on their own in dens.

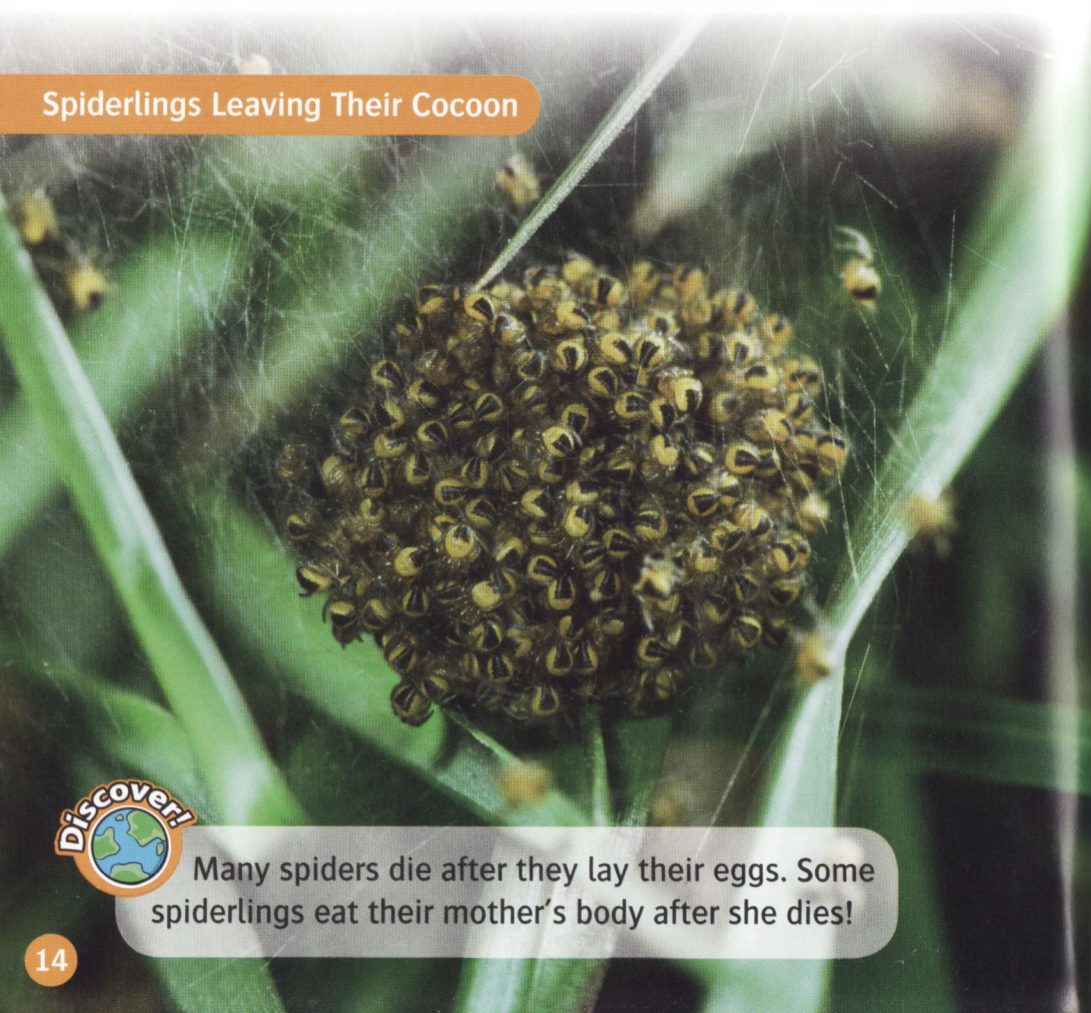
Octopuses are ready to mate when they are one or two years old. Some female octopuses lay about 200,000 eggs, and many put them in strings from the top of their dens. The females keep the eggs safe from predators and they carefully push water over them so that they get enough oxygen. The octopuses do not eat for up to ten months when they are caring for their eggs. After the eggs hatch, the female octopuses die.

Spiders

Spiders produce silk, and they use it to make webs, where they catch flies and other insects. Most species of spider also put lots of silk around their eggs to make a special cover, called a cocoon.

Most spider eggs hatch after a few days or weeks. The baby spiders, or spiderlings, grow fast and they molt a few times. They can soon make their own webs and catch their own food.

Spiderlings Leaving Their Cocoon



Many spiders die after they lay their eggs. Some spiderlings eat their mother's body after she dies!



A Female Lobster

Lobsters

A female lobster can lay up to 10,000 eggs, but only about ten of them will live. The female lobster carries her eggs hidden under her tail for almost a year. When they are ready to hatch, she lifts her tail and they float away.

When the eggs hatch, the larvae move to the top of the ocean. Life here is very dangerous because of predators and difficult currents. Lobster larvae look very different from adult lobsters. When they are about one month old, the larvae move to the bottom of the ocean. They molt about 25 times before they become adults.



Lobsters often eat their old shell after molting. This helps their new shell to become hard.

4

Fish

Fish are vertebrates that are cold-blooded. This means that their body is as hot or cold as the water around them. All fish live and breathe in water, and most baby fish hatch from eggs.

Eggs

Female fish can lay hundreds of eggs. Inside every egg there's a bag of food called the yolk. The unborn baby fish eats the yolk, so that it can grow bigger and stronger.

Fish often try to hide their eggs because many other animals like to eat fish eggs. Female seahorses lay their eggs into a special pouch on the male's front, where they stay safe until they are ready to hatch.

Some species of shark lay their eggs in a hard egg case to keep the eggs safe until they hatch.

Shark Egg Cases



A Seal Hunting Fish

Young Fish

When young fish hatch, the yolk bag is still stuck to their body. The young fish use this as food at first.

Life is very dangerous for young fish. Most of them don't have fins, so they can't swim well. They often float into colder water or places where there's no food. Also, many predators, like seals, birds, frogs, and other fish, hunt them. This is why fish lay so many eggs. A large female tuna fish can lay up to six million eggs at one time, but only about two of these will grow into adult tuna!

Growing Up

Most fish never see their parents because they swim away after they have laid their eggs. The young fish have to find food for themselves so that they can grow bigger. They eat small plants and insect eggs or larvae.

Most small fish grow into adults just a few months after hatching, but whale sharks do not grow into adults until they are 25 years old!

A Whale Shark



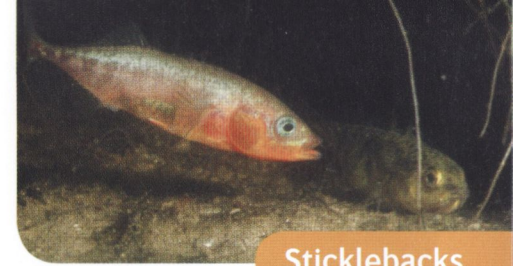
The whale shark is the biggest fish in the world. An adult whale shark can be about 12 meters long and it can weigh more than 21 metric tons.

Breeding

Fish need to find mates so that they can breed. When the male three-spined stickleback is ready to breed, he builds a nest.

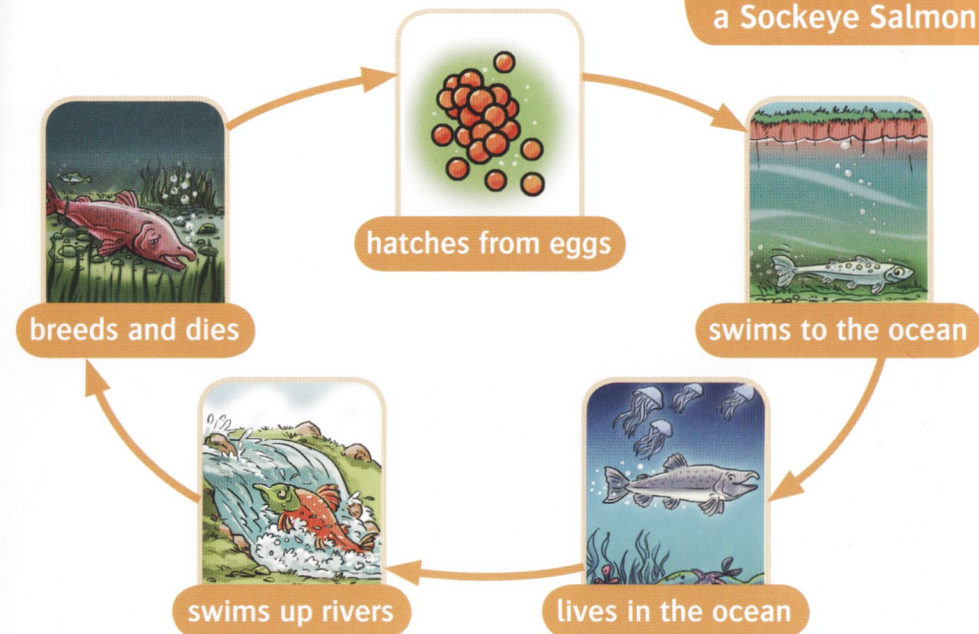
Part of his body changes to a red color. Females see his bright colors and they lay their eggs in his nest.

Many fish go back to the same place to breed every year. Salmon live in the ocean, but to breed, they swim back to the rivers where they hatched. Some salmon travel hundreds of kilometers up rivers, and sometimes they have to jump up waterfalls. They change color from silver to red when they are swimming back to their breeding places.



Sticklebacks

The Life Cycle of a Sockeye Salmon



→ Go to pages 42–43 for activities.

5

Amphibians

Like fish, amphibians are cold-blooded vertebrates. Most amphibians live for some of their life in water and for some of their life on land. Salamanders, toads, and frogs are all amphibians.

Metamorphosis

All amphibians have two different parts of life. At first they are larvae that breathe in water through special gills. Then they change into adults with lungs. This change is called metamorphosis. Usually, amphibians live in water for the first part of their life and on land for the second part. Some salamanders live in water all the time.

A Salamander Larva



A Male Midwife Toad Carrying Eggs

Eggs and Larvae

Amphibians often lay thousands of eggs. The eggs have a sticky cover, and they float in water. Most amphibians do not care for their eggs, but the male midwife toad carries them on his back until they are ready to hatch.

The young that hatch from eggs are called larvae, but young frogs and toads are also called tadpoles. At first, tadpoles don't have legs or feet and they breathe through gills. It's easy for predators to catch and eat eggs and tadpoles. Frogs can lay about 2,000 eggs, but probably only 5% live to become adults.



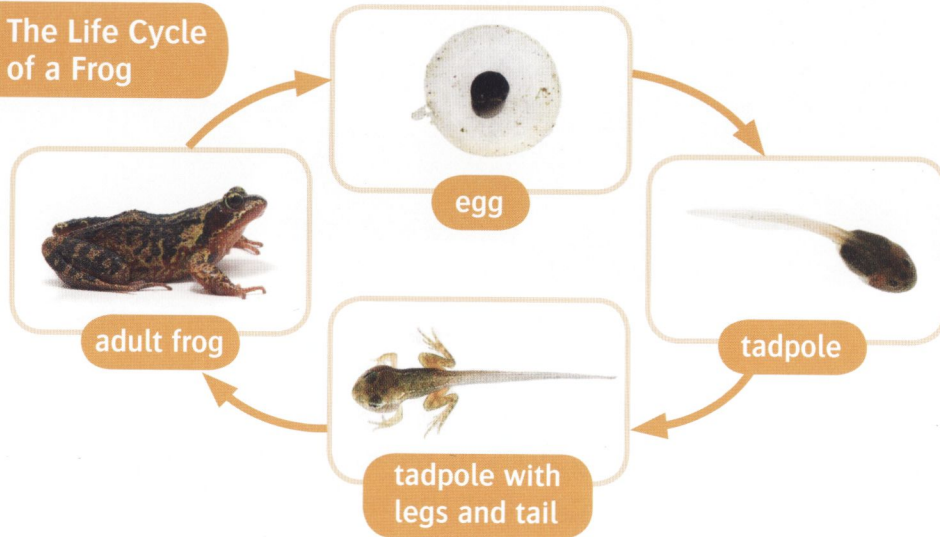
The male Darwin's frog keeps his tadpoles safe and wet in his throat, until they are big enough to swim away.



Becoming Adults

When amphibians begin to change into adults, they grow lungs inside their body and their gills close. At the same time, most amphibians grow legs and feet. An adult frog looks completely different from a tadpole!

The Life Cycle of a Frog



Most adult amphibians can breathe through their skin and their lungs! They can only breathe through their skin if it's wet, so most amphibians live near water.

Amphibians are cold-blooded, so when it gets very cold they have no energy. Some amphibians in colder countries hibernate for the winter. They hide in a safe, wet place and go into a special, long sleep.



Amphibian larvae are herbivores, but during metamorphosis, many amphibians become carnivores.



A Frog Pushing His Throat Out

Breeding

Most amphibians go to wet places like ponds, lakes, or rivers to breed, because their eggs and larvae live in water. Many go back to the same place every year, and some go back to the pond or stream where they were born. Male frogs croak and shout to tell the females that they are ready to breed. They push their throats out so that their calls are louder. When the female has chosen a mate, she lays her eggs in the water, and the male covers them with sperm.

→ Go to pages 44–45 for activities.

6

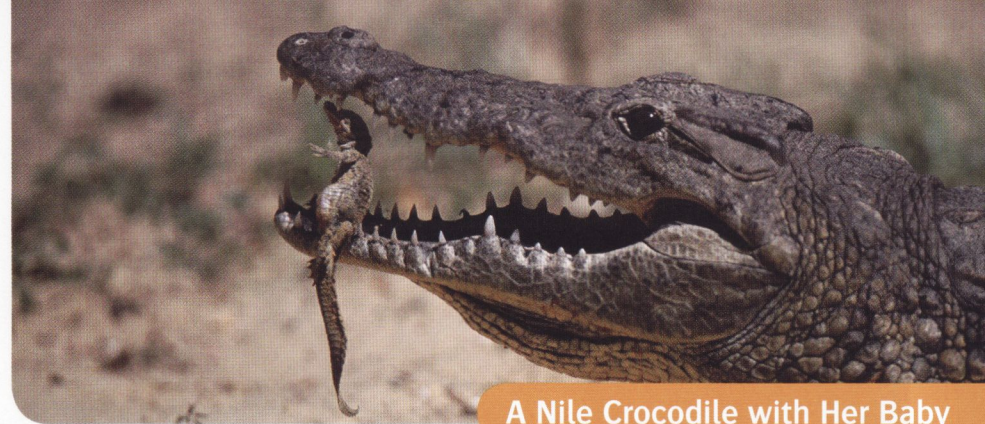
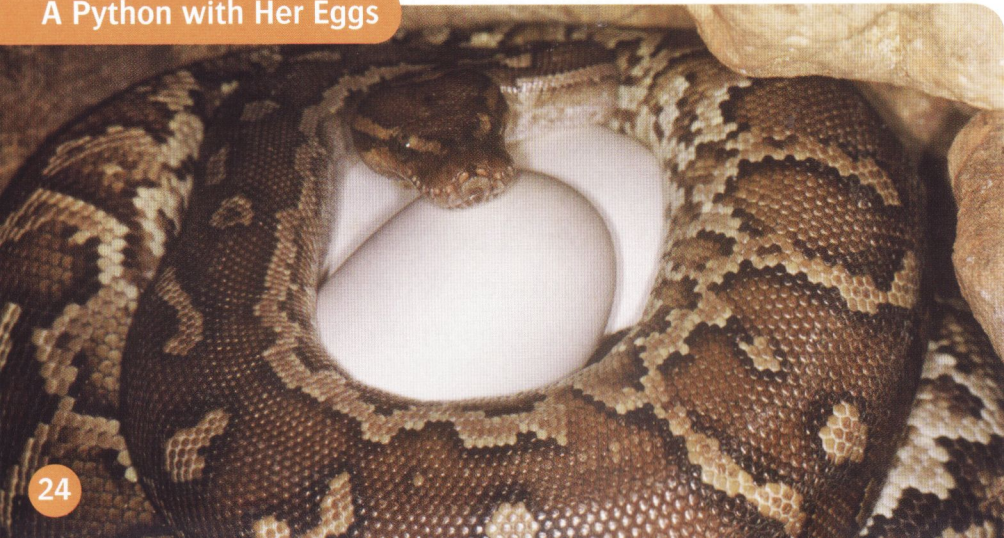
Reptiles

Reptiles are cold-blooded, and their skin is dry and covered with special scales. Lizards, snakes, crocodiles, alligators, and turtles are all reptiles. Some live on land and some live in water.

Eggs

Most reptiles hatch from eggs, but a few are born as living animals. Females lay their eggs in a warm, wet place. They usually lay a lot of eggs, but many eggs are eaten by predators. Most reptiles lay their eggs and then they leave them, but pythons put their body around their eggs to keep them warm. Alligators make a big nest from mud and leaves. They lay their eggs and stay near the nest. They don't eat for weeks when they are keeping their eggs safe.

A Python with Her Eggs



A Nile Crocodile with Her Baby

Growing Up

Crocodiles and alligators are very good parents after their eggs hatch. The female Nile crocodile is very careful – she puts her babies inside her mouth to carry them to water. She stays near them to keep them safe for up to two months.

When snakes and lizards grow, they get too big for their skin. The old skin comes off and there's a new one underneath. This is called sloughing. Most snakes lose their old skin three or four times every year.

A Snake Sloughing





Male Monitor Lizards Fighting

Breeding

When reptiles are ready to breed, they have to find a mate. Male crocodiles lift their head up and make a loud sound. They also blow bubbles in the water so that females will see and hear them. Snakes find their mate by smell. The females leave a special smell that the male follows. Other male reptiles, like monitor lizards, fight each other for a mate. The females choose the winner of the fight because he's the strongest.



Some whiptail lizards can produce young without mating! The eggs are not fertilized, but they still hatch.

Keeping Safe

Reptiles are in danger from many predators, and they have lots of ways of keeping safe. If a predator catches a lizard by its tail, the lizard can break its tail off and escape. It then grows a new tail. The stinkpot turtle makes a horrible smell from its legs to make predators go away. Many reptiles also use camouflage to keep safe. Some chameleons can change color so that predators do not see them, and the leaf-tailed gecko can hide easily because its body looks like a leaf.

A Leaf-Tailed Gecko



7

Birds

There are about 9,000 different species of bird, and they all lay eggs. Baby birds called chicks come from eggs. Birds are the only animals that have feathers. All birds have wings and most birds can fly.

Courtship

Courtship is when male birds try to find female birds that they can mate with. Male birds do many different things to find a mate. Some males show females their colors. The male frigate bird pushes his red throat out like a balloon. The blue-footed booby shows his big blue feet.

Blue-Footed Boobies



A Male Satin Bower Bird

Songbirds sing for their females, and the bower bird builds a special place with twigs and puts bright colored things in it so that it looks pretty.

Nests

Birds work very hard to build nests – special homes where they can keep their eggs and chicks safe and warm. They find grass, mud, and twigs, and they push them together. Many birds build nests in high places like trees and cliffs. Others build them on the ground. These birds are usually brown and speckled, so they are well camouflaged.



Feeding a Baby Cuckoo

Eggs

The female bird lays her eggs in the nest. Then the female or the male sits on the eggs to keep them warm. When the chick is ready to hatch, it breaks the shell with a special 'tooth' on its beak.

Cuckoos lay their eggs in other birds' nests. When the baby cuckoo hatches, it pushes the other eggs or chicks out of the nest so that it can have more food. It often grows much, much bigger than the adult bird that is feeding it!



Ostrich eggs are the biggest bird eggs, and they can weigh about 2 kilograms. If you stand on one, it will not break!



Chicks Hatching

Chicks

Many chicks have no feathers, and they can't see or move when they hatch, but some can run, swim, and find food. Birds feed their chicks and keep them safe until they can care for themselves. Birds often have to fly to and from the nest hundreds of times a day to bring enough food for their chicks.

Growing Up

Some small birds can fly just two weeks after they hatch, but bigger birds take longer. Chicks watch their parents and learn to fly, feed, sing, and keep safe. Some baby birds do not become adults for months or even years.

Many birds that migrate every year have to make long, dangerous journeys when they are still very young. These birds fly to warmer places for winter and come back to their breeding places for summer.

8

Mammals

All mammals have fur or hair and they produce milk to feed their babies. Giraffes, bears, kangaroos, elephants, and people are all mammals.



Male Giraffes Fighting

Breeding

It's usually the female mammals who choose a mate, so the males want the females to look at them. Leopards make marks on trees with their claws so that the females will know they are there. Other animals make special smells.

Males often fight with each other to win a mate. Male giraffes fight with their head and neck to show which animal is the strongest.

Having Babies

Most mammals do not lay eggs. The babies grow inside the mother's body, and they get food and oxygen from a special part of the body called the placenta. This is called gestation.

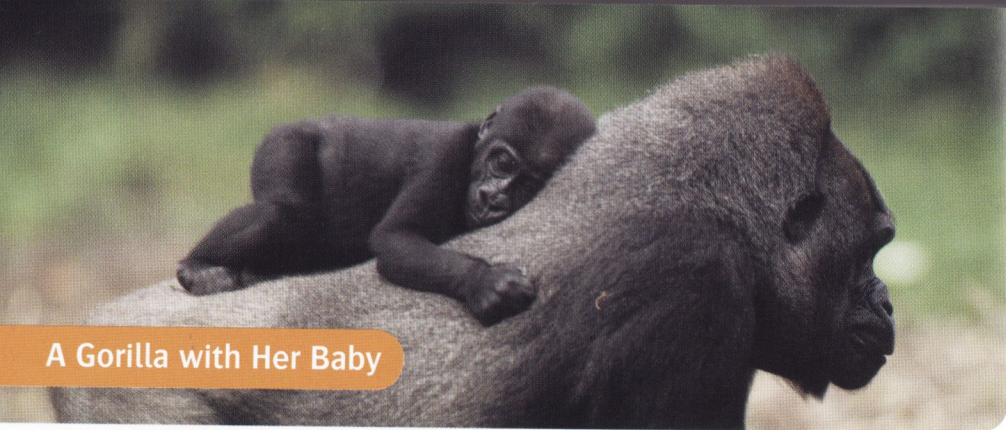


The gestation time for shrews is only two weeks, but for African elephants it's 22 months!

When mammals are ready to have their babies, many look for safe, quiet places. Polar bears dig special dens in the snow so that their babies will be warm and safe.

Polar Bears in a Snow Den



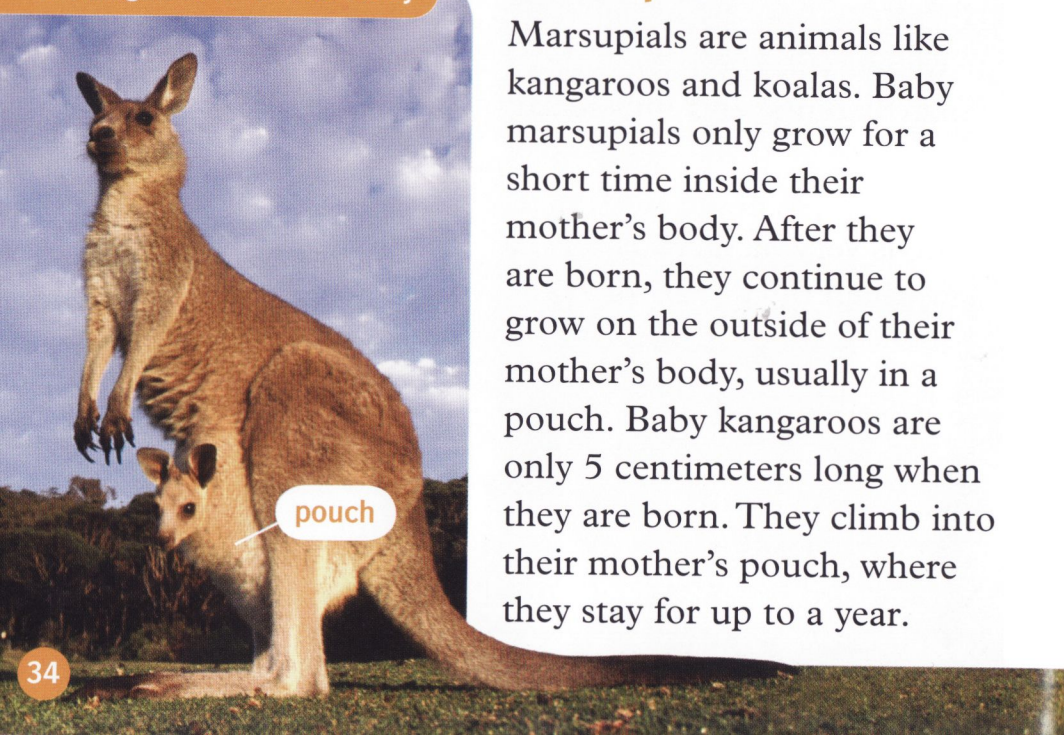


A Gorilla with Her Baby

Baby Mammals

Some baby mammals grow a lot inside their mother's body, and they can stand up as soon as they are born. Other baby mammals can't see or move when they are born. Mammals produce milk for their babies, and this is the only food or drink that they need at first.

A Kangaroo with Her Baby



Marsupials

Marsupials are animals like kangaroos and koalas. Baby marsupials only grow for a short time inside their mother's body. After they are born, they continue to grow on the outside of their mother's body, usually in a pouch. Baby kangaroos are only 5 centimeters long when they are born. They climb into their mother's pouch, where they stay for up to a year.



An Elephant with Her Baby

Growing Up

Mammals are different from many other types of animal because they feed and care for their babies. Anteaters carry their babies on their back for the first year, and elephants stay near their mother until they are ten years old. Baby mammals learn from their parents, and they learn by playing, too.

Life Cycles

Life is very dangerous for a lot of animals. Many are killed by predators. Also, people hunt them and damage their habitats – the places where they live.

Many animals die before they become adults, but if they grow up, then they can produce young. This is all part of their life cycle. Because of this, there will always be millions of species of animal on Earth, if we care for them and their habitats.

1 Life Cycles

← Read pages 4–7.

1 Complete the sentences.

vertebrates backbone invertebrates small arthropods

- Animals that have no backbone are invertebrates.
- Most invertebrates are very _____.
- The biggest group of invertebrates is the _____.
- 95% of the animal species in the world are _____.
- Animals that have a backbone are _____.

2 Complete the chart.

threadworm Mammals Echinoderms sponge
snail Reptiles Flatworms frog Arthropods

Invertebrates	
_____	spider
Mollusks	_____
Sponges	_____
Cnidarians	jellyfish
<u>Echinoderms</u>	starfish
_____	ocean flatworm
Roundworms	_____
Annelids	earthworm

Vertebrates	
Fish	tuna fish
Amphibians	_____
_____	snake
Birds	hummingbird
_____	lion

3 Match

- animals that eat plants and animals
- when sperm joins with an egg
- animals that have a backbone
- animals that produce sperm
- animals that eat plants
- an important group of invertebrates
- an important group of vertebrates
- animals that eat other animals
- animals that produce eggs
- animals that have no backbone

carnivores
invertebrates
herbivores
arthropods
omnivores
fertilization
males
reptiles
females
vertebrates

4 Answer the questions.

- How do scientists put animals into groups?

When animals are the same in many ways.

- Why are people dangerous for animals?

- How long can a Galapagos tortoise live for?

- How long does a mayfly usually live for?

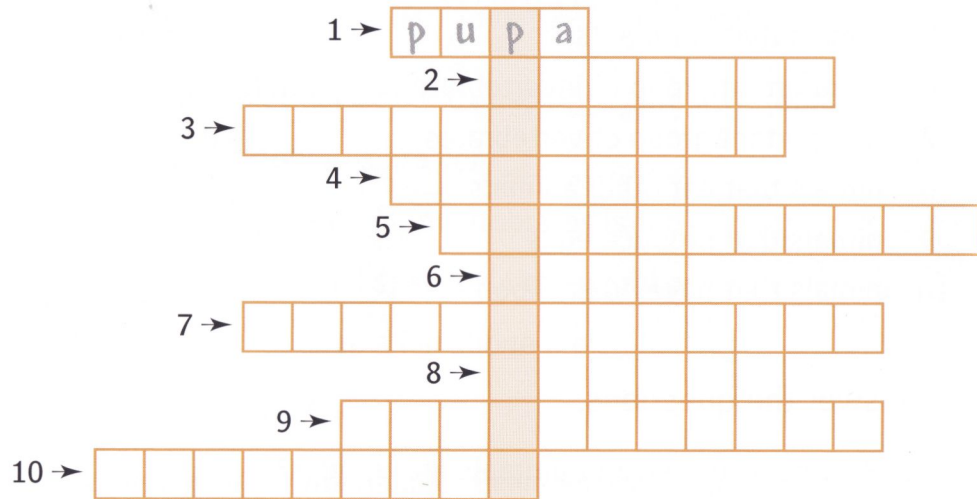
- Do birds and reptiles give birth to baby animals?

- How do mammals care for their babies?

2 Insects

← Read pages 8–11.

1 Complete the puzzle. Then write the secret word.



- 1 An insect larva changes into an adult inside a ___.
- 2 A baby insect ___ from an egg.
- 3 Insects have a hard cover called an ___.
- 4 ___ are baby insects that look very different from their parents.
- 5 ___ lay their eggs in a special case.
- 6 Insects ___ when their exoskeleton becomes too small.
- 7 ___ is when a larva or nymph changes into an adult insect.
- 8 ___ are baby insects that often look like their parents.
- 9 A butterfly larva is called a ___.
- 10 ___ turn on lights in their body when they are looking for a mate.

The secret word is:

2 Circle the correct words.

- 1 There are more than a million species of insect / butterfly.
- 2 Most insects start their life in a pupa / an egg.
- 3 During complete / incomplete metamorphosis, an insect becomes more like an adult every time it molts.
- 4 During complete / incomplete metamorphosis, an insect changes into an adult inside a pupa.
- 5 Termite queens can lay up to 3,000 / 30,000 eggs every day.

3 Answer the questions.

- 1 What is a baby bee called?

- 2 What is a baby locust called?

- 3 What happens to an insect's exoskeleton when it molts?

- 4 How do male crickets, cicadas, and grasshoppers find a mate?

- 5 Where does a cardinal beetle lay her eggs?

- 6 Why are beetle eggs usually yellow, green, or black?

3 Other Invertebrates

← Read pages 12–15.

1 Find the words. Then complete the chart.

spider frog bee butterfly hummingbird lobster octopus

crickets snake locust earthworm gorilla

Insects	Other Invertebrates	Vertebrates
	spider	

2 Write about spiders.

Three things that I read about spiders on page 14:

- 1 _____
- 2 _____
- 3 _____

Another thing that I know about spiders:

3 Complete the sentences.

12 10,000 3 25 10 200,000 10

- 1 Some female octopuses lay about _____ eggs.
- 2 Earthworm eggs hatch after about _____ months.
- 3 When they are caring for their eggs, octopuses do not eat for up to _____ months.
- 4 Young earthworms can mate when they are _____ months old.
- 5 A female lobster can lay up to _____ eggs, but only about _____ of them will live.
- 6 Lobsters molt _____ times before they become adults.

4 Match.

- 1 Lobsters
- 2 Earthworms
- 3 Octopuses
- 4 Lobsters
- 5 Earthworms
- 6 Octopuses
- 7 Lobsters
- 8 Earthworms
- 9 Octopuses

are hermaphrodites.

live at the top of the ocean after they hatch.

put their eggs in strings.

have male and female parts.

die after their eggs hatch.

often eat their old shell after molting.

keep their eggs in special rings.

live in dens at the bottom of the ocean.

carry their eggs hidden under their tail.

4 Fish

← Read pages 16–19.

1 Complete the chart.

Fish	Young Fish
Live in: _____	Dangers: _____
Warm-blooded <input type="checkbox"/>	_____
Cold-blooded <input type="checkbox"/>	Food: _____

2 Complete the sentences.

salmon shark stickleback
tuna fish whale shark seahorse

- 1 A male _____ carries eggs in a special pouch on his front.
- 2 Some species of _____ lay their eggs in a hard egg case.
- 3 A _____ can lay up to six million eggs at one time.
- 4 A _____ only grows into an adult when it's 25 years old.
- 5 When a _____ is looking for a mate, he builds a nest and he changes to a red color.
- 6 To breed, a _____ swims back to the rivers where it hatched.

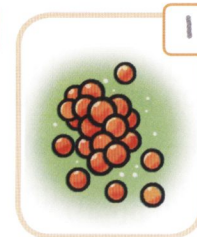
3 Write true or false.

- 1 Most baby fish hatch from eggs. true
- 2 Most fish only lay one egg. _____
- 3 Inside every egg there's a bag of food called the yolk. _____
- 4 When young fish hatch, the yolk bag is still stuck to their body. _____
- 5 When young fish hatch, they already have fins. _____
- 6 Most fish stay with their eggs until they hatch. _____

4 Complete the sentences. Then write the numbers.

breed die hatch swim

- 1 Sockeye salmon hatch from eggs.
- 2 Then they _____ to the ocean.
- 3 They swim back to the rivers where they hatched to _____.
- 4 After breeding, they _____.



5 Amphibians

← Read pages 20–23.

1 Write ✓ or X. Then write sentences.

	Lungs	Gills	In Water	On Land
Amphibian Larvae	X			
Amphibian Adults				

1 Amphibian larvae don't have lungs. They have

They usually live

2 Amphibian adults

2 Write the words.

1 Some live in water all their life.

(drʌməsⁿeəl)

salamander

2 The male carries the eggs on his back until

they are ready to hatch. (dɪmɪfeɪw dætə)

3 The larva of a frog or toad. (dɒplæt)

4 The male keeps his tadpoles in his throat.

(swɪnðrə ɡɔrf)

3 Correct the sentences.

1 Most amphibians live for some of their life in air and for some of their life on land.

Most amphibians live for some of their life in water and for some of their life on land.

2 Only 50% of the eggs that frogs lay will become adults.

3 During metamorphosis, many amphibians become herbivores.

4 Most amphibians go to dry places to breed.

4 Answer the questions.

1 How many eggs do amphibians lay?

2 When amphibians change into adults what happens to their gills?

3 How do most adult amphibians breathe?

4 Why do most amphibians live near water?

5 How do male frogs tell females that they are ready to breed?

6 Reptiles

← Read pages 24–27.

1 Find and write the words.

nersnakeamllizardmroturtletorcrocodilert



1 _____



3 _____



2 _____



4 _____

2 Match. Then write sentences.

If a predator catches a lizard,
Monitor lizards fight
To find a mate, crocodiles
When a snake grows,
Alligators make

for a mate.
the lizard can break off its tail.
its old skin comes off.
a nest from mud and leaves.
blow bubbles in the water.

1 If a predator catches a lizard, the lizard can break off its tail.

2 _____

3 _____

4 _____

5 _____

3 Circle the correct words.

- 1 Reptiles are cold-blooded / warm-blooded.
- 2 Their skin is covered with fur / scales.
- 3 The stinkpot turtle makes a horrible smell from its legs / tail.
- 4 Some whiptail / monitor lizards can produce young without mating.

4 Write true or false.

- 1 The female Nile crocodile carries her babies to water inside her mouth. _____
- 2 Sloughing is when snakes lose their old skin. _____
- 3 Pythons lay their eggs and then they leave them. _____
- 4 Alligators don't eat for weeks when they are keeping their eggs safe. _____

5 Order the words.

1 reptiles / from / Most / eggs. / hatch
Most reptiles hatch from eggs.

2 change / Chameleons / color. / can

3 lay / eggs / nest. / big / their / in / Alligators / a

4 their / smell. / Snakes / mate / find / by

7 Birds

← Read pages 28–31.

1 Write ✓ or X. Then write sentences.

Birds ... have feathers. have wings.
have fur or hair. build nests.
lay eggs. feed their babies milk.

- 1 Birds have feathers.
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____

2 Answer the questions.

- 1 What is courtship?

- 2 Why do birds build nests?

- 3 What color are birds that build their nests on the ground?

- 4 Why do some birds have to make difficult journeys when they are very young?

3 Match. What does he do when he's looking for a mate?

- 1 frigate bird
- 2 blue-footed booby
- 3 songbird
- 4 bower bird

He sings.
He builds a special place with bright colored things inside.
He shows his big feet.
He pushes his red throat out.

4 Find and write the words.

- 1 three things that birds use to make nests
grass _____
- 2 three places where birds build nests

- 3 four things that chicks learn from their parents

5 Order the words.

- 1 eggs / keep / Birds / warm. / their

- 2 biggest / the / Ostriches / eggs. / lay

- 3 their / have / tooth / a / on / beak. / special / Chicks

- 4 lay / birds' / eggs / Cuckoos / their / other / nests. / in

8 Mammals

← Read pages 32–35.

1 Find and write the mammals. Then write the numbers.

a	a	n	t	e	a	t	e	r
o	t	m	k	e	r	y	l	h
g	i	r	a	f	f	e	e	o
f	r	u	n	i	s	l	p	p
s	w	n	g	b	e	g	h	e
p	o	l	a	r	b	e	a	r
c	s	h	r	e	w	n	n	s
i	t	u	o	k	d	n	t	o
p	l	e	o	p	a	r	d	n

1 polar bear

2 a

3 g

4 p

5 l

6 k

7 s

8 e

- Its gestation time is only two weeks.
- It digs a den in the snow so its babies will be warm.
- It grows in its mother's pouch for up to a year after it is born.
- It stays close to its mother until it's ten years old.
- It carries its babies on its back for the first year.
- It makes marks on trees when it's looking for a mate.
- It fights with its neck with other males when it's ready to mate.
- You are one!

2 Circle the correct words.

- The gestation time for shrews is 2 / 22 weeks.
- Baby kangaroos are only 50 / 5 centimeters long when they are born.
- When mammals breed, the males / females usually choose a mate.
- All mammals produce milk / water to feed their babies.
- Mammals have fur or hair / scales or shells.

3 Complete the sentences.

placenta habitats marsupials gestation

- When babies grow inside the mother's body, it's called _____.
- Inside the mother's body, baby mammals get food and oxygen from the _____.
- Koalas and kangaroos are _____.
- The places where animals live are called _____.

4 Complete the chart with animals from the book.

Insects	Other Invertebrates	Mammals	Birds
butterfly			
Fish	Amphibians	Reptiles	

Project 1

A Life Cycle Poster

- 1 Complete the chart for an animal from this book. Use other books or the Internet to help you.

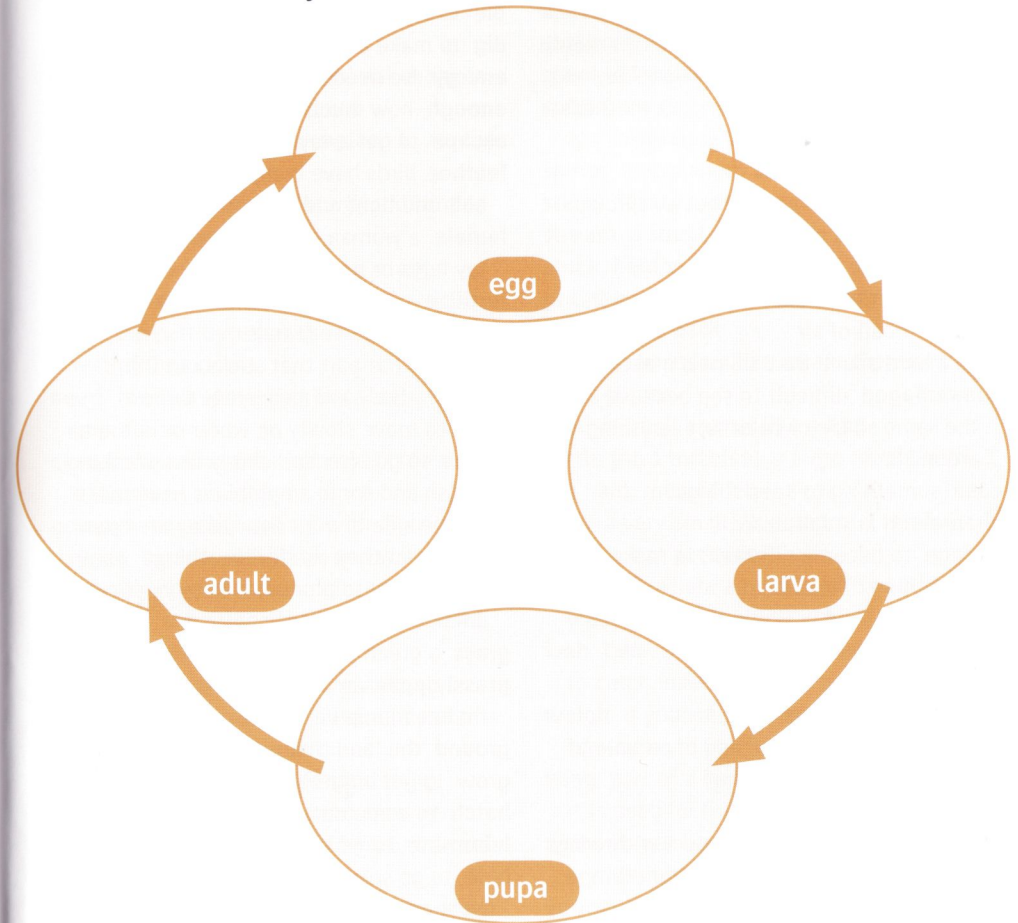
Animal	
What's its name?	
Lays Eggs / Has Babies	
How many?	
What are they like?	
Where are they laid / born?	
Babies	
What do they look like?	
What do they eat?	
How do they keep safe?	
How do they grow?	
Adults	
How do they find a mate?	
Where do they go to breed?	

- 2 Make a poster. Write sentences about the animal's life cycle and add pictures.
- 3 Display your poster.

Project 2

An Insect Life Cycle

- 1 Choose an insect that changes by complete metamorphosis, for example a fly, beetle, ant, wasp, or bee.
- 2 Draw or find four pictures to show a life cycle below.
- 3 Write a sentence about each different part of the insect's life cycle.



Glossary

Here are some words used in this book, and you can check what they mean. Use a dictionary to check other new words.

adult a person or animal that has finished growing
alive living; not dead
alligator a large reptile with a long tail that lives in rivers and lakes
amount how much there is of something
anteater an animal with a long nose; it eats ants
attack to fight with someone or something
backbone the line of small bones that are down the middle of an animal's back
balloon a small bag that becomes bigger and rounder when you blow into it
beak the hard pointed part of a bird's mouth
become to change into; to start to be
born when you come out of your mother's body at the beginning of your life
bottom the opposite of top
breathe to take in and let out air through your nose and mouth
breed to have babies
bright strong and easy to see (for colors)
bubble a ball of air
call a loud sound that animals make
camouflaged difficult to see because it's the same shape or color as everything around it
case something to keep things in
chameleon a small lizard
change to become different; to make something different
chemical a solid or liquid that is made by chemistry
chick a baby bird
cicada a large insect
claw a sharp nail on the end of an animal or bird's foot
cliff a high rock
cockroach a large, brown insect with wings
cover a thing that is put over something to keep it safe or to make it look nice
crab an ocean animal with a hard shell and eight legs
cricket a small brown jumping insect that makes a loud sound
croak to make a low, hard sound
current a large amount of warm or cold water that moves around the ocean
damage to make something bad or weak
danger when something could hurt or kill people or animals
dead not living any more
den an animal's home
die to stop living
dig to make a hole in the ground
energy we need energy to move and grow
enough how much we want or need
escape to get away from something
feather birds have many of these; they are soft and light and cover their body
female a woman or girl; an animal that can lay eggs or have babies
fertilize to join sperm from the male with an egg from the female
fin a thin flat part that sticks out from a fish's body and helps it to swim
float to move slowly on water or in the air
follow to go after somebody or something
gill fish and some amphibians have these on the side of their head; they are open parts that they use for breathing
give birth to to produce a baby or young animal
grass a green plant
grasshopper an insect with long back legs that can jump very high
ground the land that we stand on
grow to get bigger
hatch to come out of an egg
hibernate to go into a special, long sleep
hide to go somewhere where you will not be seen; to put something where it will not be seen

hole a space in something
insect a very small animal with six legs
join together to become one thing
kill to make somebody or something die
koala an Australian animal with gray fur, big ears, and no tail
lake a big area of water
lay eggs to produce eggs
leopard a wild animal from the cat family
lung a part of the body that is for breathing; most animals and people have two
male a man or boy; an animal that cannot usually have babies
mark a cut or a small area of dirt on something
mate an animal that another animal has babies with
metamorphosis when an animal changes to look completely different
migrate to move from one place to another to live
moth an insect like a butterfly, but not so brightly colored
move to go from one place to another
mud wet soil
neck the part between the head and the rest of the body
need to want something because it is very important
ocean the salt water that covers most of Earth
octopus an ocean animal with eight arms
oxygen a gas that is in air and water; people, plants, and animals need it to live
pollution something that makes air, land, or water dirty
pouch a bag of skin on some animals
predator an animal that hunts and eats other animals
produce to grow or make something
push to make something move away
queen the most important female insect in a group
river water on land that goes to the ocean
road cars and other vehicles travel on it
safe not in danger
scale hard material that covers the skin of many fish and other animals
seahorse a small ocean fish; it swims standing up on its tail
shark a large ocean fish
shell a hard cover on the outside of some animals
shout to make a very loud sound
shrew a small animal with a long nose; it's like a mouse
silver a shiny gray color
similar like someone or something
skin a thin layer that covers an animal
special different and important
species a group of the same type of animal or plant
speckled covered with small marks
sperm males produce it; it joins with an egg to produce young
spider a very small animal with eight legs
sticky it stays with things that touch it
stream a small river
stuck held together
tail the part of an animal's body that comes out at the back
termite an insect like an ant that lives in big groups
toad a small animal like a frog
turtle (also tortoise) a large reptile with a hard, round shell
twig a very small, thin part of a tree
unborn not yet born
waterfall where a river falls from a high place
web thin strings of silk made by spiders to catch insects
weigh if you weigh something you see how heavy it is
wing part of a bird, insect, or bat's body; it is used for flying
without not having something; not doing something
young baby animals



Oxford Read and Discover

Series Editor: Hazel Geatches • CLIL Adviser: John Clegg

Oxford Read and Discover graded readers are at four levels, from 3 to 6, suitable for students from age 8 and older. They cover many topics within three subject areas, and can support English across the curriculum, or Content and Language Integrated Learning (CLIL).

Available for each reader:

- Audio CD Pack (book & audio CD)
- Activity Book

For Teacher's Notes & CLIL Guidance go to www.oup.com/elt/teacher/readanddiscover

Subject Area Level	The World of Science & Technology	The Natural World	The World of Arts & Social Studies
3 600 headwords	<ul style="list-style-type: none"> • How We Make Products • Sound and Music • Super Structures • Your Five Senses 	<ul style="list-style-type: none"> • Amazing Minibeasts • Animals in the Air • Life in Rainforests • Wonderful Water 	<ul style="list-style-type: none"> • Festivals Around the World • Free Time Around the World
4 750 headwords	<ul style="list-style-type: none"> • All About Plants • How to Stay Healthy • Machines Then and Now • Why We Recycle 	<ul style="list-style-type: none"> • All About Desert Life • All About Ocean Life • Animals at Night • Incredible Earth 	<ul style="list-style-type: none"> • Animals in Art • Wonders of the Past
5 900 headwords	<ul style="list-style-type: none"> • Materials to Products • Medicine Then and Now • Transportation Then and Now • Wild Weather 	<ul style="list-style-type: none"> • All About Islands • Animal Life Cycles • Exploring Our World • Great Migrations 	<ul style="list-style-type: none"> • Homes Around the World • Our World in Art
6 1,050 headwords	<ul style="list-style-type: none"> • Cells and Microbes • Clothes Then and Now • Incredible Energy • Your Amazing Body 	<ul style="list-style-type: none"> • All About Space • Caring for Our Planet • Earth Then and Now • Wonderful Ecosystems 	<ul style="list-style-type: none"> • Helping Around the World • Food Around the World

For younger students, **Dolphin Readers** Levels Starter, 1, and 2 are available.