



Brimming with creative inspiration, how-to projects, and useful information to enrich your everyday life, Quarto Knows is a favourite destination for those pursuing their interests and passions. Visit our site and dig deeper with our books into your area of interest: Quarto Creates, Quarto Cooks, Quarto Homes, Quarto Lives, Quarto Drives, Quarto Explores, Quarto Gifts, or Quarto Kids.

Atlas of Ocean Adventures copyright © Wide Eyed Editions 2019
Illustrations copyright © Lucy Letherland 2019
Text copyright © Emily Hawkins 2019

First Published in 2019 by Wide Eyed Editions, an imprint of The Quarto Group.
The Old Brewery, 6 Blundell Street, London N7 9BH, United Kingdom.
T (0)20 7700 6700 F (0)20 7700 8066 www.QuartoKnows.com

The right of Emily Hawkins and Lucy Letherland to be identified as the author and illustrator of this work, respectively, has been asserted by them both in accordance with the Copyright, Designs and Patents Act, 1988 (United Kingdom).
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, electrical, mechanical, photocopying, recording or otherwise without the prior written permission of the publisher or a license permitting restricted copying. In the United Kingdom such licenses are issued by the Copyright Licensing Agency, Barnard's Inn, 8b Fetter Lane, London, EC4A 1EN.

ISBN 978-0-7112-4530-3

Illustrated with coloured inks
Set in Festivo, Gabriela and Gill Sans Shadow

Designed by Myrto Dimitrakoulia
Edited by Lucy Brownridge
Published by Rachel Williams

Printed in Dongguan, China TL082019

1 3 5 7 9 8 6 4 2





LONG-HAUL TRAVEL WITH THE LEATHERBACK TURTLE

In the middle of the Pacific Ocean, thousands of miles from shore, a hardy traveler is making an incredible journey. The leatherback turtle is a record-breaker of the reptile world; not only is it the largest, fastest, and deepest-diving sea turtle, but it also makes one of the longest ocean migrations of any creature. This endurance athlete is swimming 7,500 miles from the tropical seas of Indonesia to the cooler waters off the northern USA, to gorge on jellyfish. The long journey will take her several months.

With no compass or GPS system, how does she find her way? Scientists believe that leatherbacks navigate using the angle of the sun, or by sensing the Earth's magnetic field. When the turtle reaches her feeding grounds, she will eat hundreds of pounds of jellyfish each day—on some days she may even eat her own body weight in prey! This feast will give the leatherback all the energy she needs for her long journey back again across the wide Pacific Ocean to the beach where she will lay her eggs.

The leatherback has the largest range of any sea turtle: it is found in all of the world's oceans apart from the Arctic.

Groups of pilot fish accompany the turtle on her travels, scavenging leftover scraps of food.

This massive marine reptile weighs up to 2,000 pounds, which is nearly the same as a small car! Its shell can measure up to 6.5 feet long.

The Pacific sea nettle is one of the turtle's favorite snacks. The long tentacles of this jellyfish are lined with stinging cells, but the leatherback gobbles it down all the same.

Leatherbacks spend most of their lives at sea—the females come ashore every two or three years, returning to the same area they hatched to make their nests.

Sea turtles migrate from tropical seas—where they breed, laying their eggs on warm beaches—to cooler waters that are rich in tasty jellyfish.

These gentle giants sometimes eat floating plastic bags that they mistake for jellyfish—some turtles have been found with nearly 11 pounds of plastic in their stomachs.

Despite being the size of a manhole cover, the moonfish is a fast swimmer, speeding after squid to eat.

Leatherbacks are the oldest species of turtle, dating back 150 million years to the days of the dinosaurs. Nowadays they are endangered, at risk from human hunters, plastic pollution, fishing nets, and egg poachers.



Leatherbacks can dive deeper than any other turtle, down to 4,000 feet, where they can stay for up to 85 minutes before surfacing for air!

SNOOZING WITH THE SEA OTTERS, USA

In the kelp forests of California's Monterey Bay live some of the rarest animals in the world: sea otters. These playful, curious creatures can be spotted floating on the surface, dozing on their backs. The otters aren't being lazy—they need to conserve their strength. It takes a lot of energy to keep warm in these chilly waters, especially as they don't have any warm blubber, unlike whales and seals.

A mother sea otter carries her young pup on her chest to keep him safe and dry. The baby is too young to swim on his own, so he relies on his mother and his thick fur to keep him afloat. Every day, the mother spends hours grooming her little one, fluffing up his fur to fill it with air, which will help him bob on the surface like a cork. The pup will stay with his mother for at least six months, until he has learned all the skills he needs to survive on his own.

Sea otters were once hunted for their fur, and the species nearly died out. Nowadays, otter hunting is banned and their numbers are creeping up, although they are still endangered.



It can take a sea otter pup six months to learn how to smash open a shell using a stone or even the side of a boat!

When a mother otter dives for food, she sometimes wraps her baby in kelp to stop it from drifting away.

Sea otters have the thickest fur in the animal kingdom: on a patch the size of a quarter, they have up to a million hairs—more than humans have on their whole head!

Sea otters must eat a quarter of their weight in food each day to make enough energy to stay warm in the cold water.

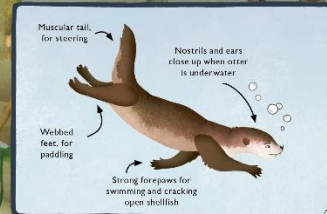
Shellfish are an otter's favorite food but are tricky to open. Luckily, this clever mammal has figured out a solution. It places a stone on its chest, which it uses to crack open clams.

Kelp forests are under threat from warming ocean temperatures and sea urchins, who devour this seaweed. California's sea otters feed on the urchins, which helps to preserve the forests.

These strong swimmers dive to the seabed to collect crabs, sea urchins, and clams to eat. They can stay underwater for 5 minutes.

When the mothers aren't grooming their pups, they're feeding them milk. They do this at least 12 times a day. It takes a lot of energy to make milk, so the moms are always hungry!

They may look cute, but sea otters can be aggressive. Males often fight to establish who is top dog in a particular area.



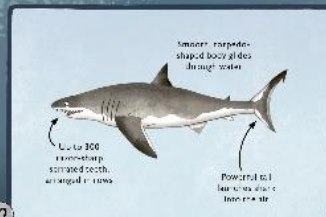


This bay in South Africa is one of the only places on Earth that great whites leap into the air—or breach—in this way.

To reach their feeding grounds, the seal pups must cross shark-infested waters. Younger pups, who aren't such strong swimmers, are easy prey for these hungry hunters.

With their powerful senses, great white sharks can detect prey from more than half a mile away.

Female great white sharks are usually larger than males. The largest female ever measured was over 20 feet long.



32

A seal's whiskers detect tiny vibrations in the water, letting it know if a shark is close.

Cape fur seals are very agile, twisting and turning to make their escape.

The fur seals swim together, swimming in groups to decrease their chances of becoming shark supper.

The great white shark can attack at a speed of more than 25 miles per hour, and can leap more than 45 feet out of the water!

Although great white sharks are expert hunters, the seals are also experts at getting away! Fewer than half of these shark strikes result in a kill.

HUNTING WITH THE GREAT WHITE SHARKS, SOUTH AFRICA

Every year, thousands of Cape fur seals gather to breed on Seal Island, off the coast of South Africa. When winter arrives, the seal pups must leave the safety of the island in search of food. But danger awaits them in the choppy waters. This bay attracts the world's most feared ocean hunter: the great white shark. As the seals swim to their feeding grounds, they are at risk of a surprise

attack. The world's top marine predator is a powerful killing machine. The great white shark lurks in the depths close to Seal Island. It sees its sights on a target above—usually a young seal that can't keep up with the others. In a flash, the shark powers up to the surface, launching into the air with jaws open wide. Luckily for this little seal, it glimpses the shark at the last moment and darts out of reach. Better luck next time!

A shark prefers unobstructed, murky waters when hunting. If the sea is too calm and clear, then prey can see it coming.

33