

Sharks and Dolphins



**A Compare and
Contrast Book**

By Kevin Kurtz



Sharks and Dolphins

Sharks and dolphins both have torpedo-shaped bodies with fins on their backs. They slice through the water to grab their prey with sharp teeth. But despite their similarities, sharks and dolphins belong to different animal classes: one is a fish and gets oxygen from the water and the other is a mammal and gets oxygen from the air. Marine educator Kevin Kurtz guides early readers to compare and contrast these ocean predators through stunning photographs and simple, nonfiction text.

It's so much more than a picture book . . . this book is specifically designed to be both a fun-to-read story and a launch pad for discussions and learning. We encourage adults to do the activities with the young children in their lives both at home and in the classroom. Free online resources and support at www.ArbordalePublishing.com include:

- For Creative Minds as seen in the book (in English & Spanish):
 - Venn Diagram: Fish and Mammals
 - A World Without Sharks and Dolphins
 - Sharks
 - Dolphins
- Teaching Activities (to do at home or school):
 - Reading Questions
 - Math
 - Language Arts
 - Science
- Interactive Quizzes: Reading Comprehension, For Creative Minds, and Math Word Problems
- English and Spanish Audiobooks
- Related Websites
- Aligned to State Standards, Common Core & NGSS
- Accelerated Reader and Reading Counts! Quizzes
- Lexile and Fountas & Pinnell Reading Levels

Ebooks with Auto-Flip, Auto-Read, and selectable English and Spanish text and audio are available for purchase online.

Thanks to Shelley Dearhart, Good Catch Manager at the South Carolina Aquarium, for reviewing the accuracy of the information in this book.

Animals in the book include: African pompano, Amazon river dolphin, angelfish, bat, blacktip reef shark, bottlenose dolphin, bull shark, clownfish, commerson's dolphin, common dolphin, giraffe, great hammerhead shark, great white shark, human, Indo-Pacific humpback dolphin, lemon shark, lion, mako shark, orca, Pacific white-sided dolphin, sand tiger shark, sawfish shark, sea horse, silky shark, spinner dolphin, spiny dogfish shark, spotted dolphin, thresher shark, tiger shark, whale shark, and whitetip reef shark.



Award-winning author **Kevin Kurtz** holds degrees in English literature and elementary education and started his career by working at a marine biology lab. Since then, he has combined all of these experiences by working as an environmental educator and curriculum writer for organizations such as the South Carolina Aquarium, the Science Factory Children's Museum, and the Center for Birds of Prey. Kevin has authored *A Day in the Deep*, *A Day on the Mountain*, and *A Day in the Salt Marsh* for Arbordale. Kevin also wrote *Uncovering Earth's Secrets* after spending eight weeks as the Educator at Sea aboard the marine geology research vessel JOIDES Resolution. Visit his website at kevinkurtz.homestead.com.



Kevin Kurtz

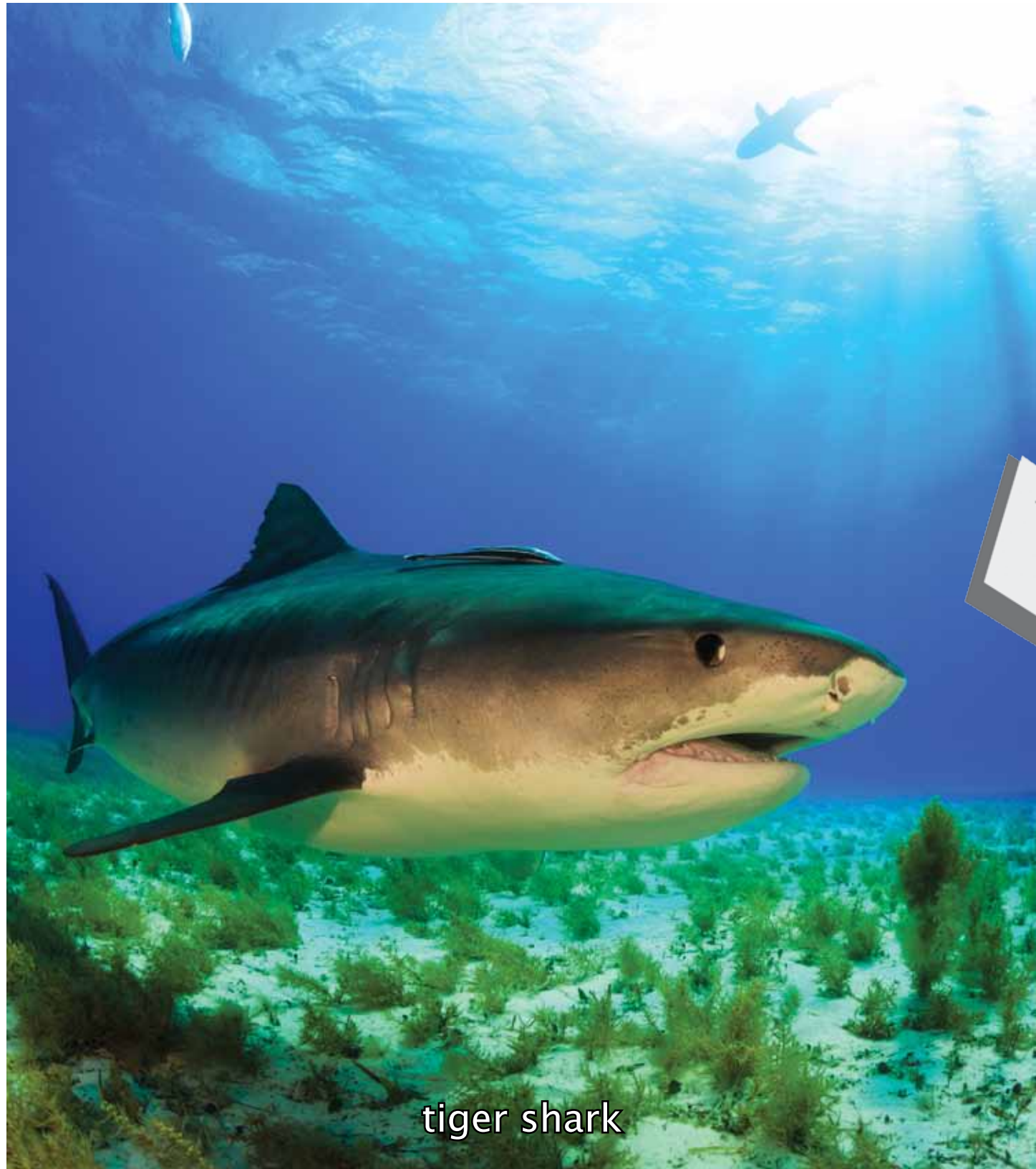
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This is a shark.



tiger shark

This is a dolphin.



bottlenose dolphin

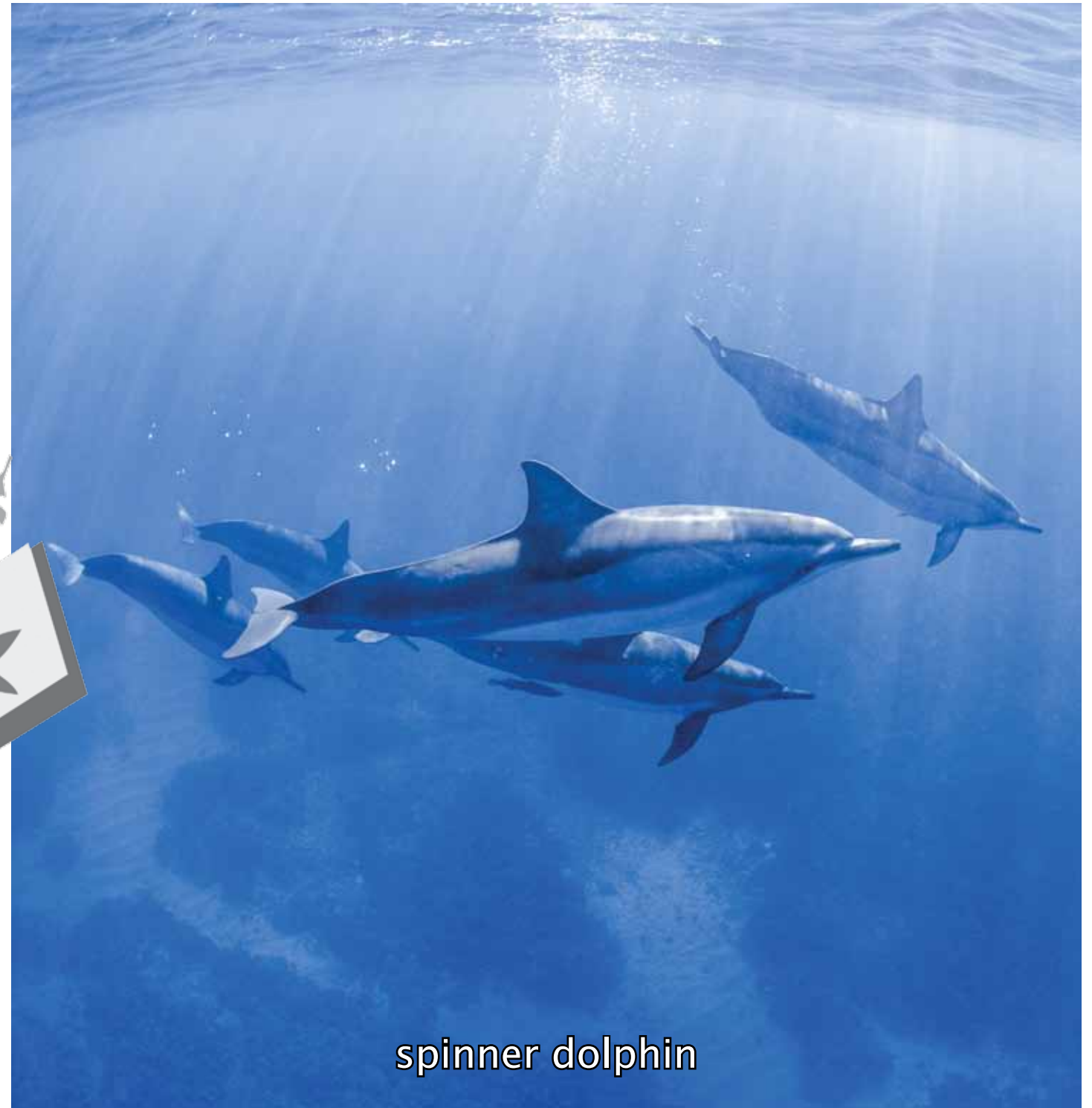


**In some ways they are similar.
In other ways they are different.**

Sharks and dolphins live in the ocean.



bull shark



spinner dolphin

They both have torpedo-shaped bodies to cut through the water. They have fins and flippers in similar places to help them swim quickly.

Sharks and dolphins are not the same kind of animals, though.

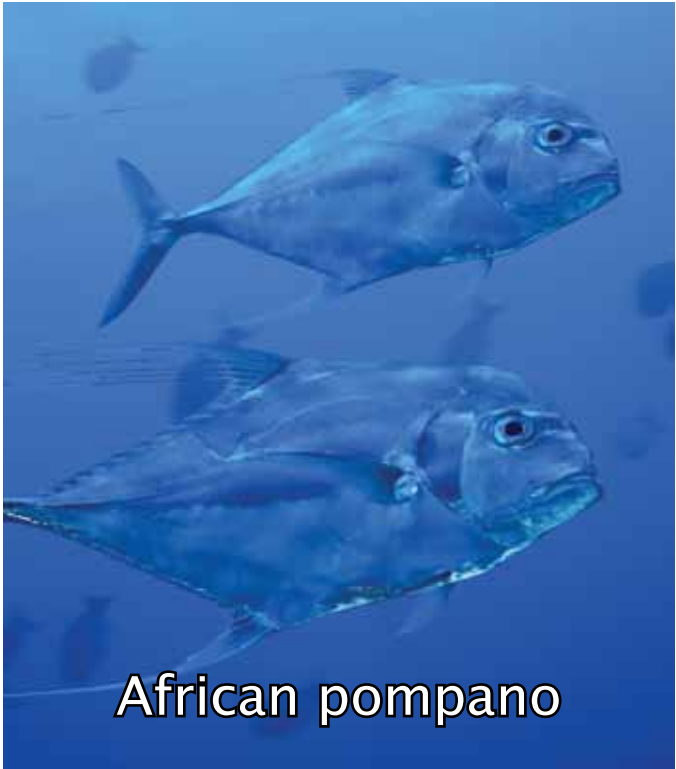
Sharks are fish.



lemon shark

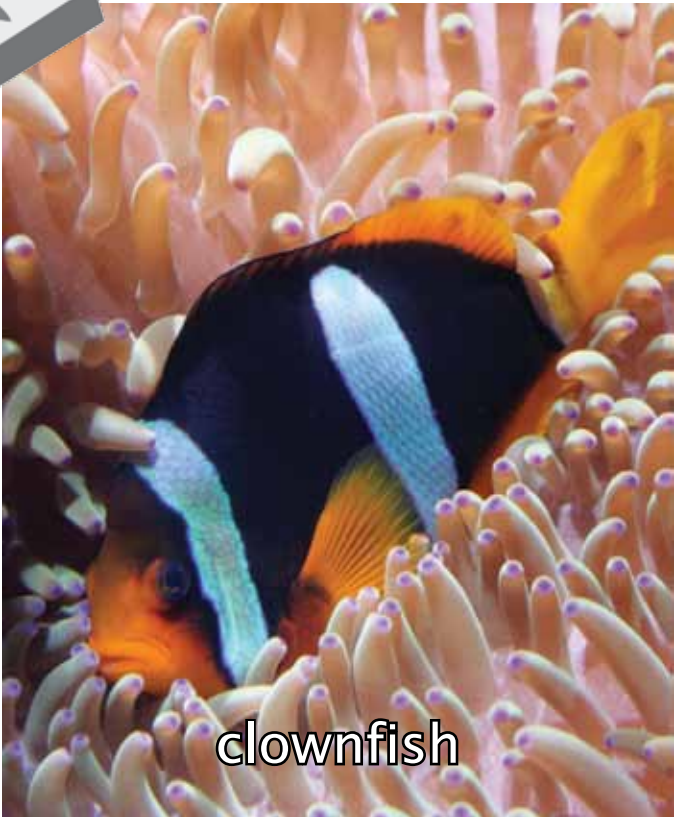


sea horse

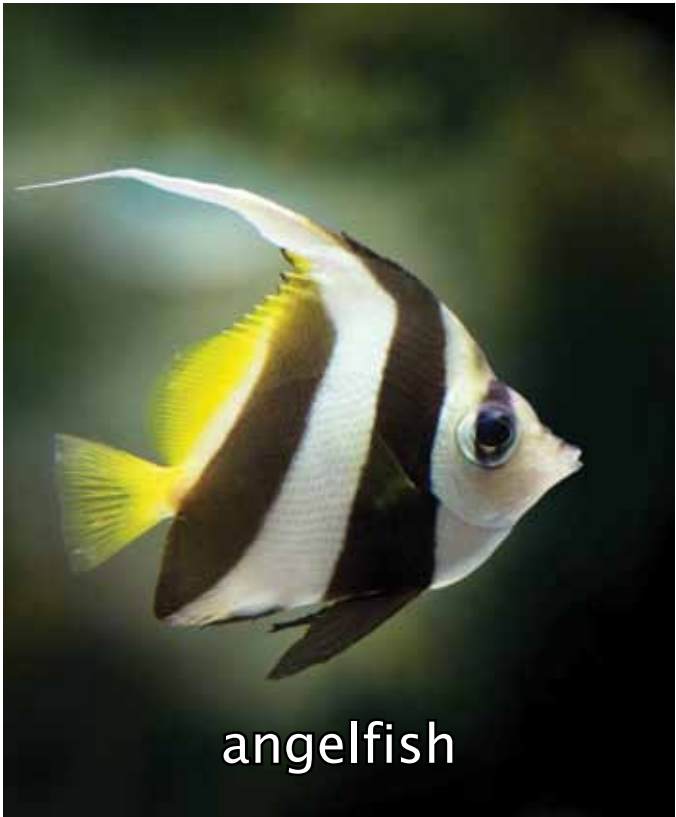


African pompano

So are these animals.

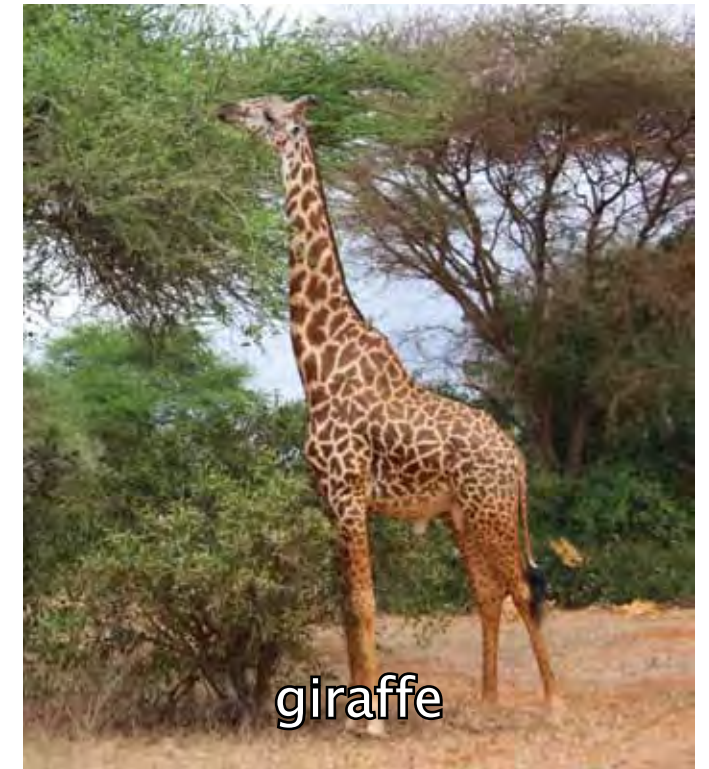


clownfish



angelfish

Dolphins are mammals.



So are these animals.

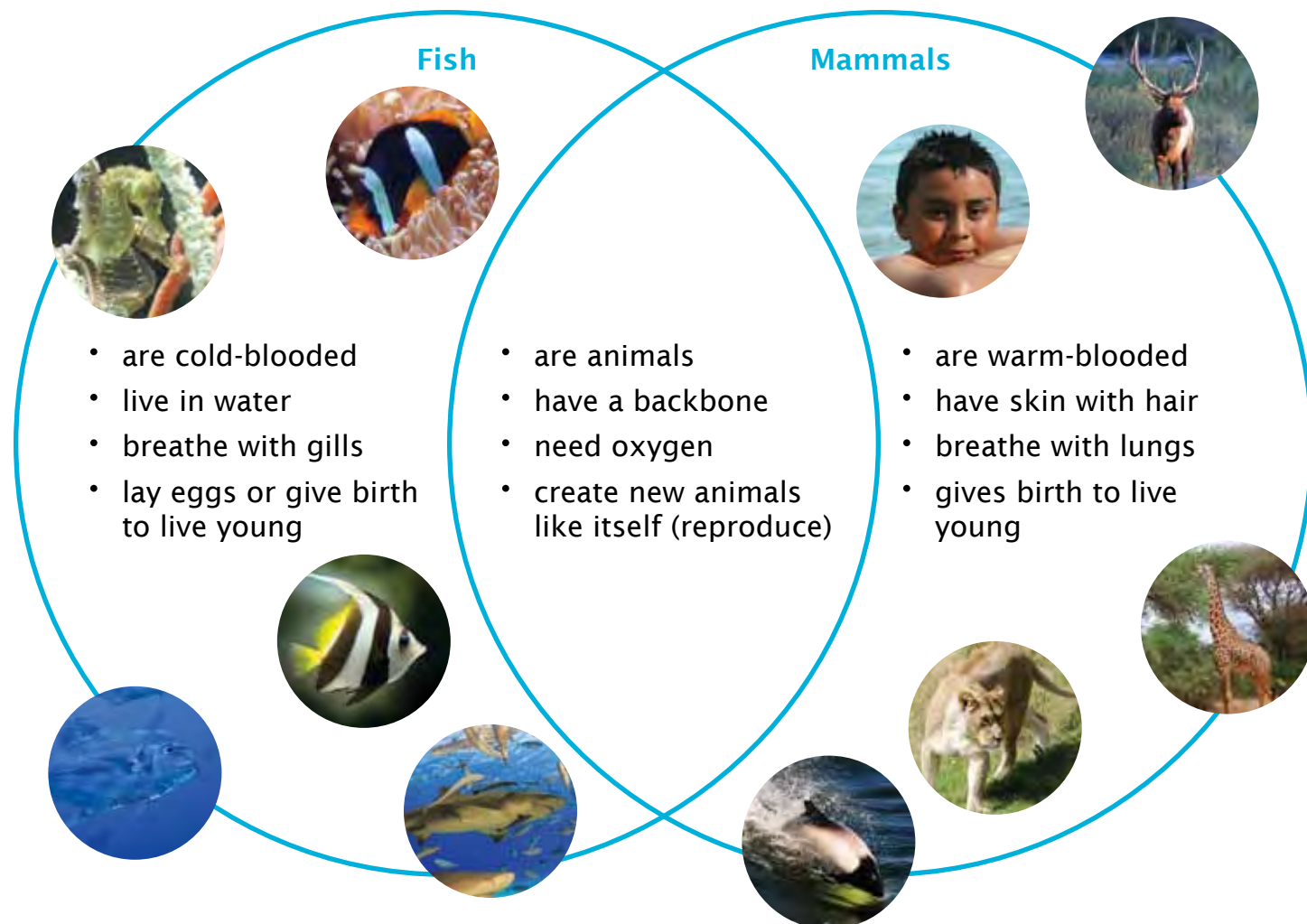


For Creative Minds

This For Creative Minds educational section contains activities to engage children in learning while making it fun at the same time. The activities build on the underlying subjects introduced in the story. While older children may be able to do these activities on their own, we encourage adults to work with the young children in their lives. Even if the adults have long forgotten or never learned this information, they can still work through the activities and be experts in their children's eyes! Exposure to these concepts at a young age helps to build a strong foundation for easier comprehension later in life. This section may be photocopied or printed from our website by the owner of this book for educational, non-commercial uses. Cross-curricular teaching activities for use at home or in the classroom, interactive quizzes, and more are available online. Go to www.ArbordalePublishing.com and click on the book's cover to explore all the links.

Venn Diagram: Fish and Mammals

A **Venn diagram** is made of overlapping circles and shows how two things are alike and different. In the Venn diagram below, one circle shows traits belonging to fish and the other shows traits belonging to mammals. In the middle, where the circles overlap, are traits that fish and mammals have in common.



Draw your own Venn diagram (or print the one in the online Teaching Activity Guide) to compare sharks and dolphins.

A World Without Sharks and Dolphins

A predator is any animal that hunts other animals (prey) for food. Predators are an important part of any food web. If the top predators disappear from a food web, it affects the entire ecosystem. What could happen if sharks and dolphins were not a part of the ocean food web?

Put the following events in order to spell the scrambled word.

E

Without as many small fish and algae-eaters, there would be nothing to slow the growth of algae. Algae are important to the ocean's health, but too much algae can smother coral reefs.

O

Sharks and dolphins hunt mid-size ocean animals, including squid, seals, stingrays, and large fish. If sharks or dolphins disappeared, these mid-size ocean animals would have fewer predators. Their populations would grow.

N

If the coral reefs and the animals they support disappeared, human fishers all around the world would not be able to catch as many fish.

S

If the fishers could not catch enough fish, many people would go hungry. Three billion people (almost half of the world's population) depend on seafood as part of their diet.

C

All of those mid-size ocean animals would need lots of food to eat. They would over-hunt the smaller marine life that feeds on algae, jellyfish, and plankton. The small-size ocean animals would start to disappear.

A

The coral reefs smothered by algae would get sick and die. Coral reefs are an important ocean habitat. They provide shelter and food for many ocean animals. If the coral reefs died, those animals would disappear as well.

Answer: OCEANS

Sharks

Match the body part labels to their location on the shark. Answers are below.

Dorsal fins: the fins on a shark's back, used to stabilize the body in the water

Eye: the organ on the front of the face that a shark uses to see

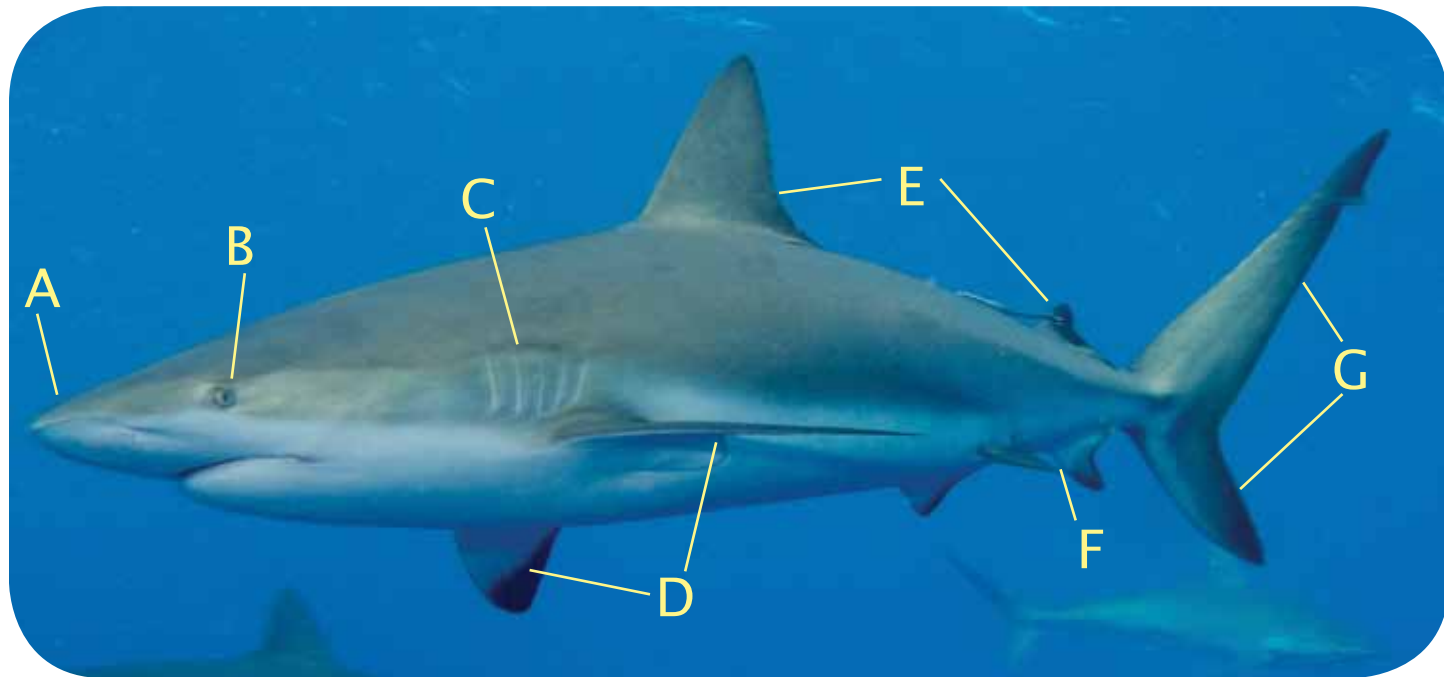
Gills: openings on a shark's sides that allow the shark to take in oxygen from the water

Pectoral fins: the fins at a shark's sides

Pelvic fin: the small fin underneath a shark's belly

Snout: the part of a shark's face that sticks forward from the body

Tail fin: the vertical fin at the back of a shark's body



Animals use senses to learn about the world around them. Sharks have a special sense called **electroreception**. Just like many animals sense light or sound, sharks sense electricity.

When an animal moves, its muscles flex. This creates a small electric charge. Electricity travels easily through salt water.

Sharks sense the electricity in the water to find their prey.

Answers: A-snout. B-eye. C-gills. D-pectoral fins. E-dorsal fins. F-pelvic fin. G-tail fin.

Dolphins

Match the body part labels to their location on the dolphin. Answers are below.

Rostrum: the part of a dolphin's face that sticks forward from the body

Blowhole: opening on a dolphin's back that allow the dolphin to take in oxygen from the air

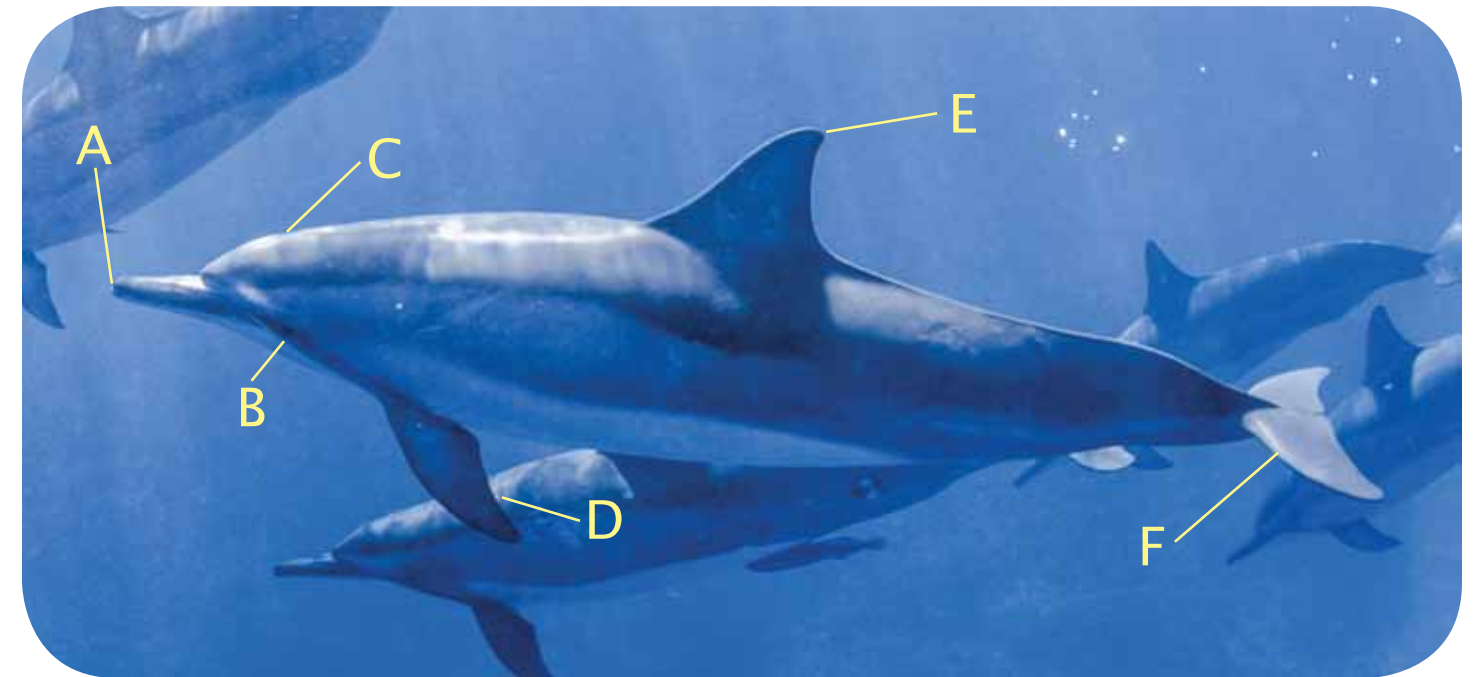
Dorsal fin: the fin on a dolphin's back, used to stabilize the body in the water

Eye: the organ on the front of the face that a dolphin uses to see

Flukes: the horizontal tail at the back of a dolphin's body

Pectoral fins: the fins at a dolphin's sides

Look at the shark body parts on the previous page. What body parts do sharks and dolphins have in common? What body parts are similar but have different names? What body parts do sharks have that dolphins don't, or vice versa?



Dolphins use **echolocation** to map their surroundings. They rely heavily on their sense of sound. Dolphins make a high-pitched squeaking noise and then listen for the echoes.

Sound moves in waves. When it hits an object, it bounces back. This is called an echo. The sound of the echo tells the dolphin what type of thing the sound bounced off. The time it takes for the echo to come back to the dolphin's ear tells it how far away the object is.

Dolphins use their sense of hearing to find their prey.

Answers: A-rostrum. B-eye. C-blowhole. D-pectoral fins. E-dorsal fin. F-flukes

Cover designed and photoshopped by Mark Lawrence.

Thanks to Shelley Dearhart, Good Catch Manager at the South Carolina Aquarium, for reviewing the accuracy of the information in this book.

Library of Congress Cataloging-in-Publication Data

Kurtz, Kevin, author.

Sharks and dolphins : a compare and contrast book / by Kevin Kurtz.

1 online resource. -- (Compare and contrast series)

Audience: Ages 4-8.

Includes bibliographical references.

Description based on print version record and CIP data provided by publisher; resource not viewed.

ISBN 978-1-62855-753-4 (English Download) -- ISBN 978-1-62855-767-1 (Eng. Interactive) -- ISBN 978-1-62855-760-2 (Spanish Download) -- ISBN 978-1-62855-774-9 (Span. Interactive) -- ISBN 978-1-62855-732-9 (English hardcover) 1. Sharks--Juvenile literature. 2. Dolphins--Juvenile literature. 3. Marine animals--Juvenile literature. I. Title.

QL638.9

591.77--dc23

2015036548

Translated into Spanish: *Tiburones y delfines*

Lexile® Level: 410

key phrases: animal classification, compare/contrast, ocean animals

Bibliography:

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Image

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giraffe
bat
human
silky shark
common dolphin
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Arbordale Publishing
Mt. Pleasant, SC 29464
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