

公众号：Wonders

National Geographic Readers: Coral Reefs

By: Kristin Rattini

Explore the amazing underwater world of coral reefs and the animals that live there.

6-8

Age Range

15-30 mins

Length

700L

Lexile® Measure

4.0

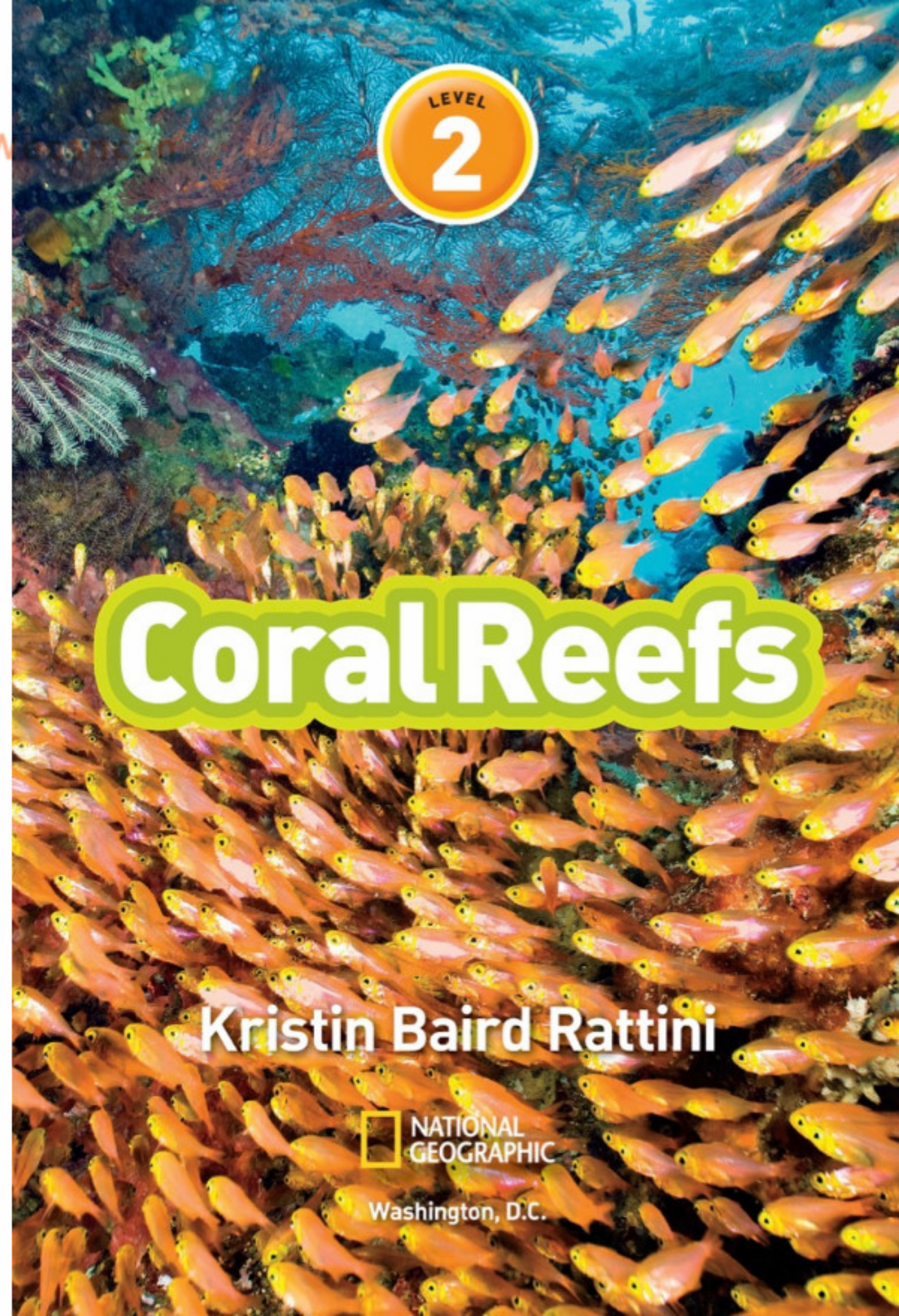
AR Level

Coral Reefs

Kristin Baird Rattini

 NATIONAL
GEOGRAPHIC

Washington, D.C.



City Under the Sea

公众号：Wecancan

Q

What did the coral reef say to the water?

You're so shallow.

A

The shallow ocean waters look calm. But under the surface, a coral reef is a busy place.

Hundreds, even thousands, of different creatures swim and hide along the reef. There they find food and shelter. They make their home in this “city under the sea.”



A coral reef is a very important ecosystem (EE-koh-sis-tum). More sea creatures live along coral reefs than in any other part of the ocean.



Reefs are found in many spots around the world. Most reefs grow in shallow, clean ocean waters on either side of the Equator (i-KWAY-tur). They need sunlight and warm temperatures year-round to survive.

Reef Talk

ECOSYSTEM: all the living and nonliving things in an area

EQUATOR: the imaginary line around Earth halfway between the North and South Poles



Reef Builders

a group of coral polyps



a coral polyp up close

Coral reefs look like they are made of rocks. But, in fact, they are groups of animals called corals. Each coral group is made up of many separate coral polyps (POL-ips).

ecancan

In reef ecosystems, there are two kinds of coral: hard and soft. Only hard coral polyps form reefs. They're named for the hard skeletons they build at the base of their soft bodies.

Reef Talk

CORAL POLYP: a small, simple sea animal with a tube-shaped body and a mouth ringed with tentacles at the top



Hard corals make reefs.



Soft corals do not make reefs.

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One coral polyp can be as small as the head of a pin. But when many polyps join together, they make a reef that can stretch for miles.

New polyps build their hard skeletons on top of old ones. Over many years, these layers of skeletons slowly grow into a coral reef.

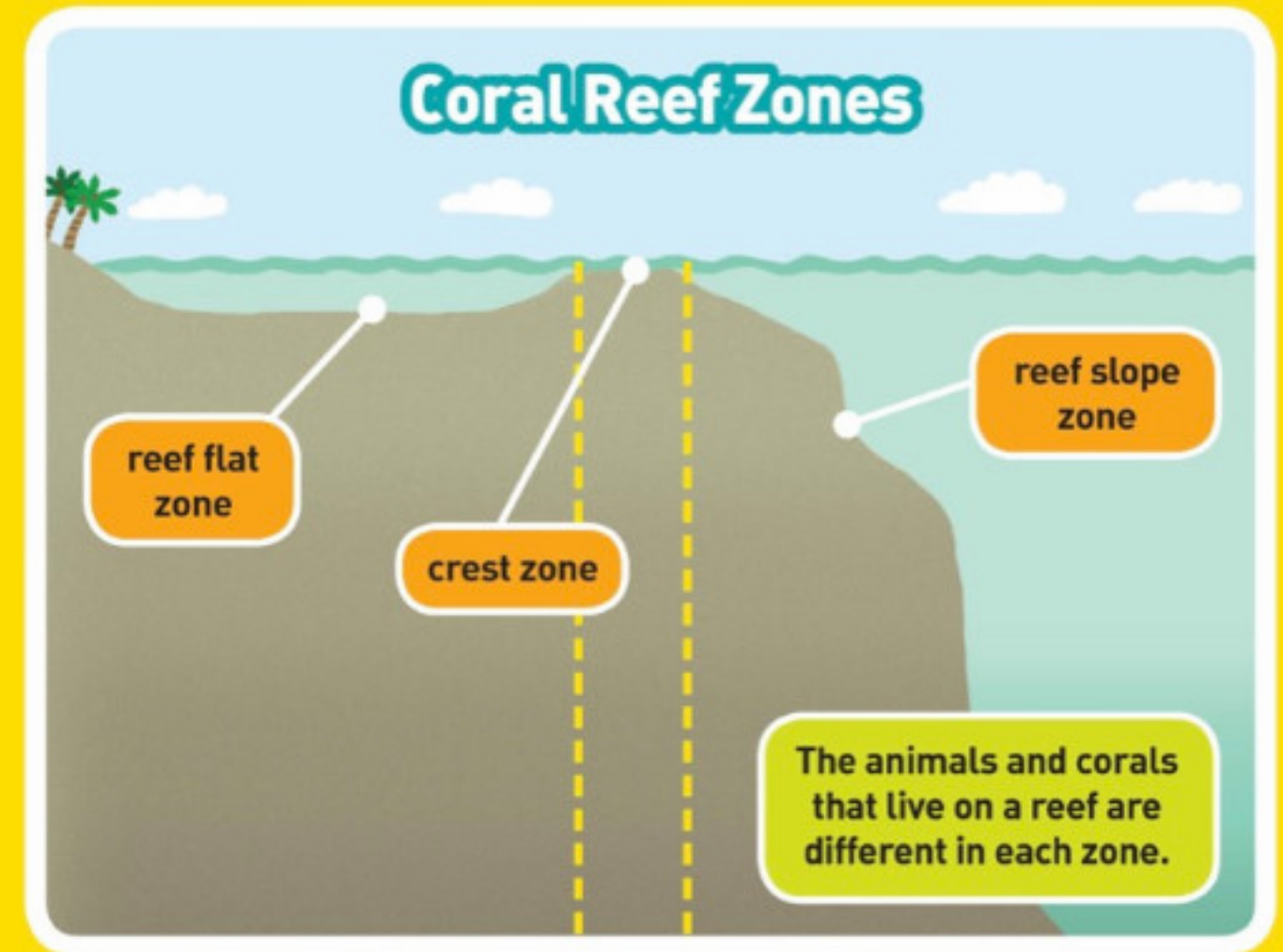


fan coral with
open polyps

In the Zone

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All coral reefs have three zones.
The reef flat zone often stretches toward land. The crest zone is the highest part of the reef. The reef slope zone faces the open ocean. It's the deepest part of the reef.



Neighbors on the Reef

Creatures big and small can be found on reefs around the world. Sea stars travel slowly along a reef's surface. Giant clams rest there too. Tube sponges stretch up from a reef like small chimneys. Seahorses

wrap their tails around pieces of coral.

Sea turtles swim around reefs. Eels hide in a reef's cracks.



sea star



tube sponges



seahorse



giant clam

Many animals use camouflage (KAM-uh-flazh) to hide along the reef. Some use it to stay safe from other animals that could eat them. Others use it to hide while they hunt.

Reef Talk

CAMOUFLAGE: an animal's natural color or shape that helps it hide from other animals



cuttlefish



reef stonefish



trumpetfish

A stonefish's bumpy body blends in with the coral. A trumpetfish dives down and holds still. Its long, thin body stretches up like a tall sponge. A cuttlefish can change its shape and skin color to match the coral reef.

Reef Plants

公众号: Wecan

Q

What did the fish say
as it left the reef?

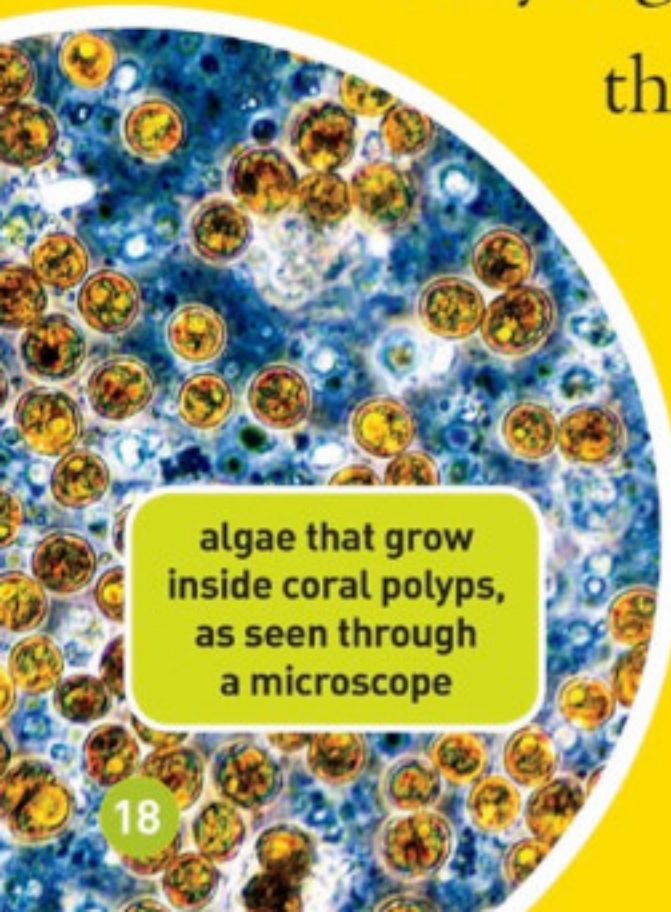
See you later!

A



Plants play an important role in coral reef ecosystems.

Tiny algae (AL-jee) live inside the coral polyps' soft bodies. The algae use sunlight to make food for the coral. This helps the coral grow.



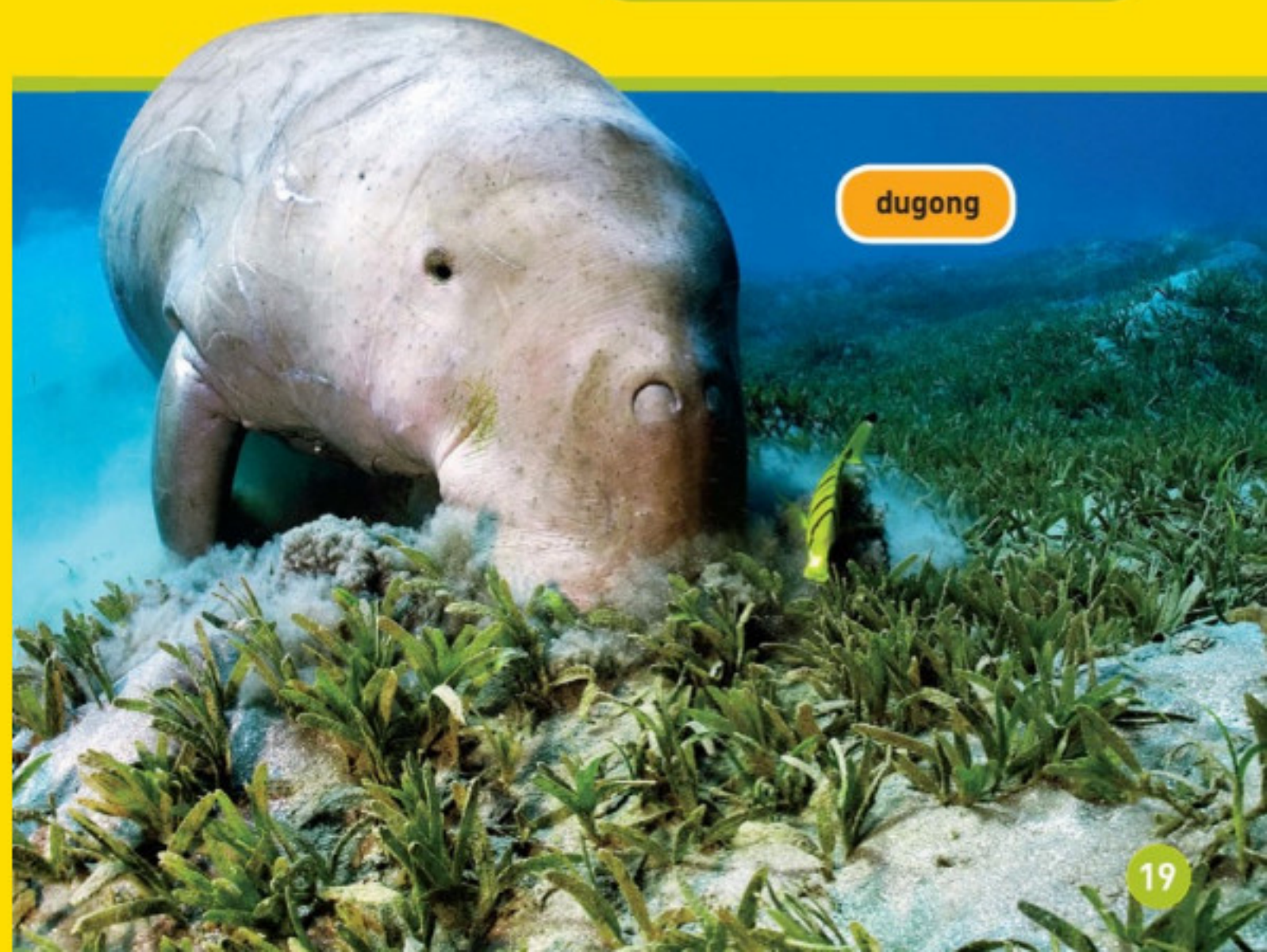
algae that grow
inside coral polyps,
as seen through
a microscope

18

Sea grass can grow in the reef flat zone. It helps trap mud from rivers that flow into the ocean. Sea grass also provides food for dugongs and sea turtles.

Reef Talk

ALGAE: Simple plants without stems or leaves that grow in or near water



dugong

19

The Reef in Darkness

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longspine
squirrelfish

As night falls, life along the reef changes. Different animals come out to find food.



octopus



Caribbean reef sharks



cone snail

Squirrelfish use their large eyes to search for shrimp in the darkness. Octopuses stretch their arms over the reef to feel for food. Sharks hunt for fish. Cone snails catch fish and worms.

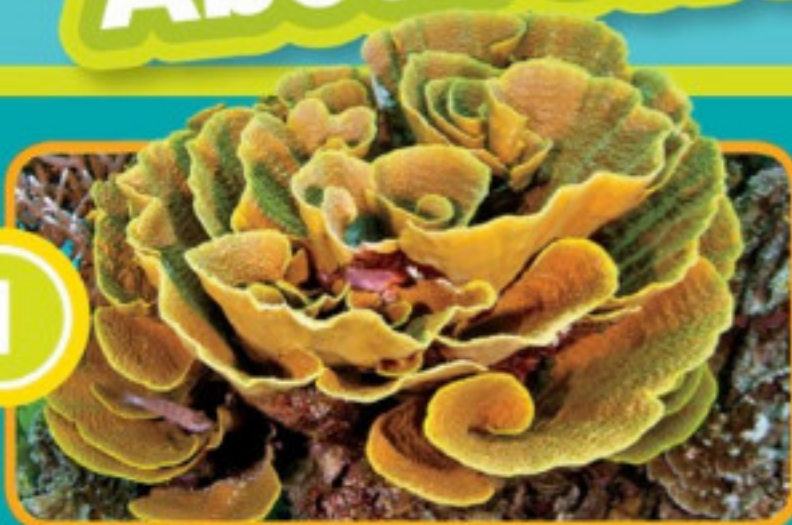
6 COOL FACTS About Coral Reefs

Most coral reefs today are between 5,000 and 10,000 years old.



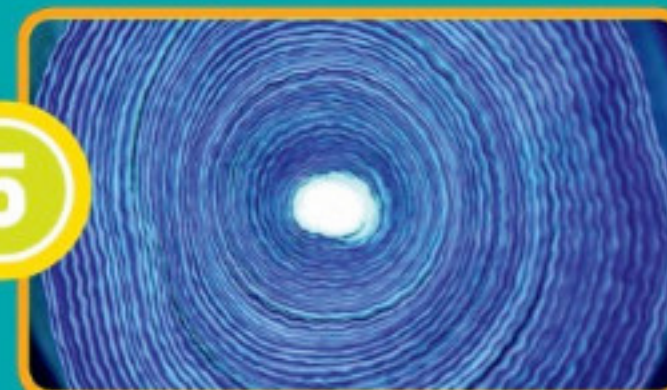
4

1



There are more than 800 different kinds of hard coral in the world's oceans.

5



Corals have growth rings, just like trees.

Brain corals can live for 900 years.



2

The Great Barrier Reef is off Australia's northeast coast. It is the largest coral reef system on Earth. It can be seen from space!

6



3

The first coral reefs on Earth formed 240 million years ago, before dinosaurs were alive.



People and Reefs

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Q

Which coral is the smartest?

A brain coral.

A



Coral reefs are important to more than just animals and plants. They are important to people, too. Millions of people eat the fish that live along reefs.

Many people earn money from fishing or taking tourists to visit reefs. Reefs also help protect people and houses on land. They block big waves from crashing on the shore.

Rescuing Reefs

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Pollution (puh-LOO-shun) sometimes spills into the oceans. It can harm reefs.

Fishing and boating can also damage fragile reefs.

Reef Talk

POLLUTION: harmful matter that makes water, soil, or air dirty



Many reefs are in danger.

Scientists are worried about threats to coral reefs.

Ocean waters around the world are getting warmer. Coral polyps die when the water is too warm.

The *Shen Neng 1* struck the Great Barrier Reef in 2010. The ship scraped along the reef for almost two miles, damaging coral and spilling oil into the water.



But there is good news.
Many people are working
to save reefs.

Volunteers help clean up
pollution on land and at sea.
Some countries have special
areas, called preserves, where
coral reefs are protected.

Divers and swimmers—
like you—can help, too!
The next time you see
a beautiful coral reef, look
but don't touch.



QUIZ WHIZ

How much do you know about coral reefs? After reading this book, probably a lot! Take this quiz and find out.

Answers are at the bottom of page 31.

1

What are coral reefs made of?

- A. hard coral polyps
- B. rocks
- C. soft coral polyps
- D. none of the above



2

Which zone is found on the highest part of the reef?

- A. the reef flat zone
- B. the crest zone
- C. the reef slope zone
- D. the end zone



3

Which of these animals does not live along a coral reef?

- A. eel
- B. horse
- C. sea star
- D. giant clam



4



Which of these animals can be found along reefs at night?

- A. cone snail
- B. octopus
- C. shark
- D. all of the above

5

Earth's largest coral reef system is off the coast of which country?

- A. Australia
- B. Belize
- C. Indonesia
- D. United States



6

How old are most coral reefs today?

- A. 5,000 to 10,000 years old
- B. 50,000 years old
- C. 500,000 years old
- D. 500 million years old



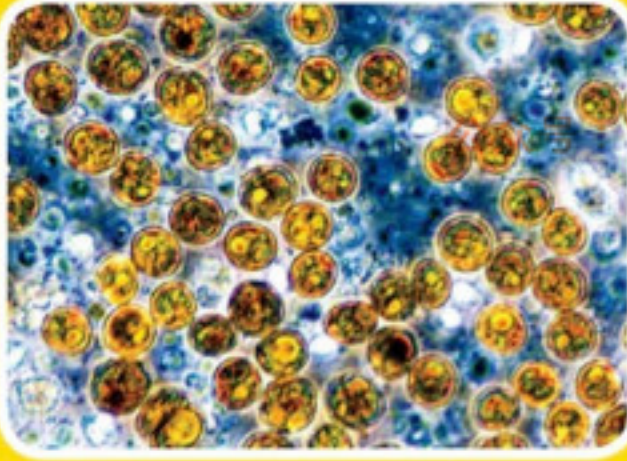
7

What can be harmful to coral reefs?

- A. fishing and boating
- B. pollution
- C. rising water temperatures
- D. all of the above



Answers: 1) A, 2) B, 3) B, 4) D, 5) A, 6) A, 7) D



ALGAE: simple plants without stems or leaves that grow in or near water



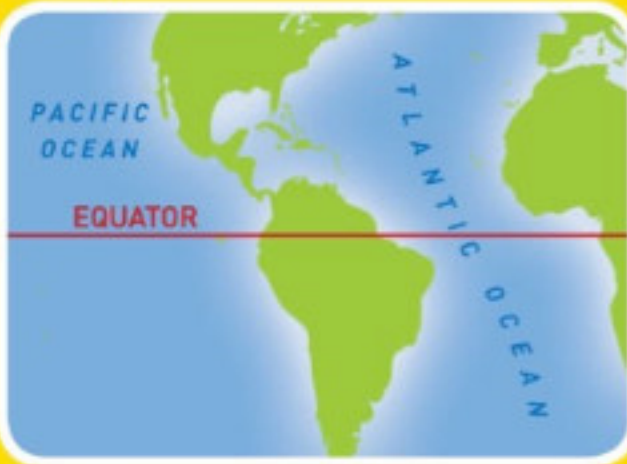
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