

Comprehension

Genre

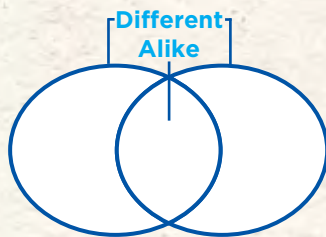
Narrative Nonfiction is a true story or account about actual persons, living things, situations, or events.



Analyze Text Structure

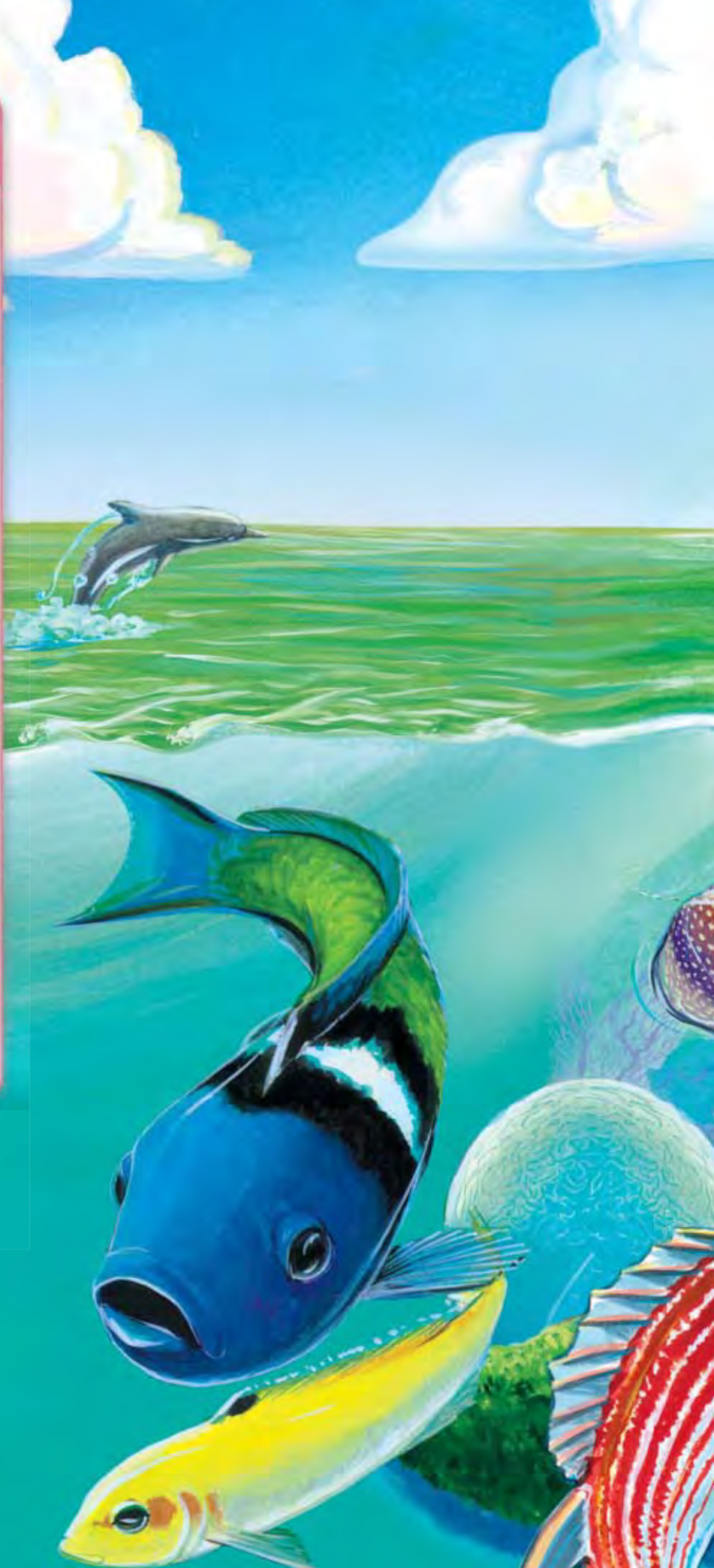
Compare and Contrast

As you read, fill in your Venn Diagram.



Read to Find Out

How does a coral reef change and grow?



AT HOME IN THE Coral Reef

by Katy Muzik • Illustrated by Katherine Brown-Wing

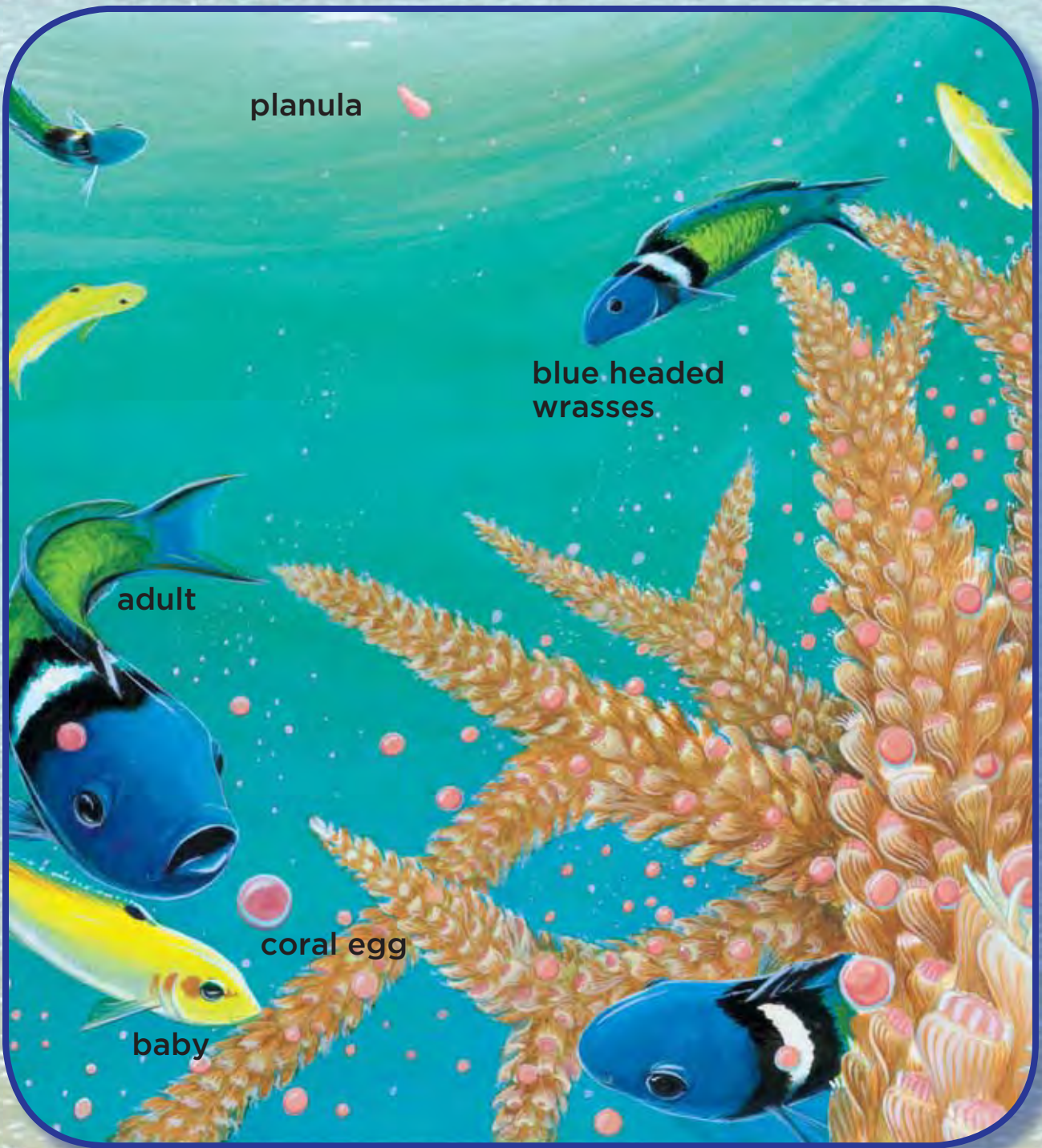


Down, down, down in the tropical clear blue sea lives a beautiful **coral** reef. The coral **reef** is a wonderful home for hundreds of kinds of fish and thousands of other kinds of creatures. The reef itself is made of zillions of tiny animals called coral polyps.

Each tiny coral polyp catches food with its little arms, called tentacles. The polyps share their food and live so close together that their skeletons are connected.

Some kinds of coral polyps make soft skeletons that sway gently back and forth in the water. These polyps have 8 tentacles. Other coral polyps make skeletons that are as hard as rock. Their hard skeletons form the coral reef. A hard coral polyp has 12, or 24, or 48, or more tentacles! Together, over 50 kinds of hard coral form this reef in the Caribbean Sea.





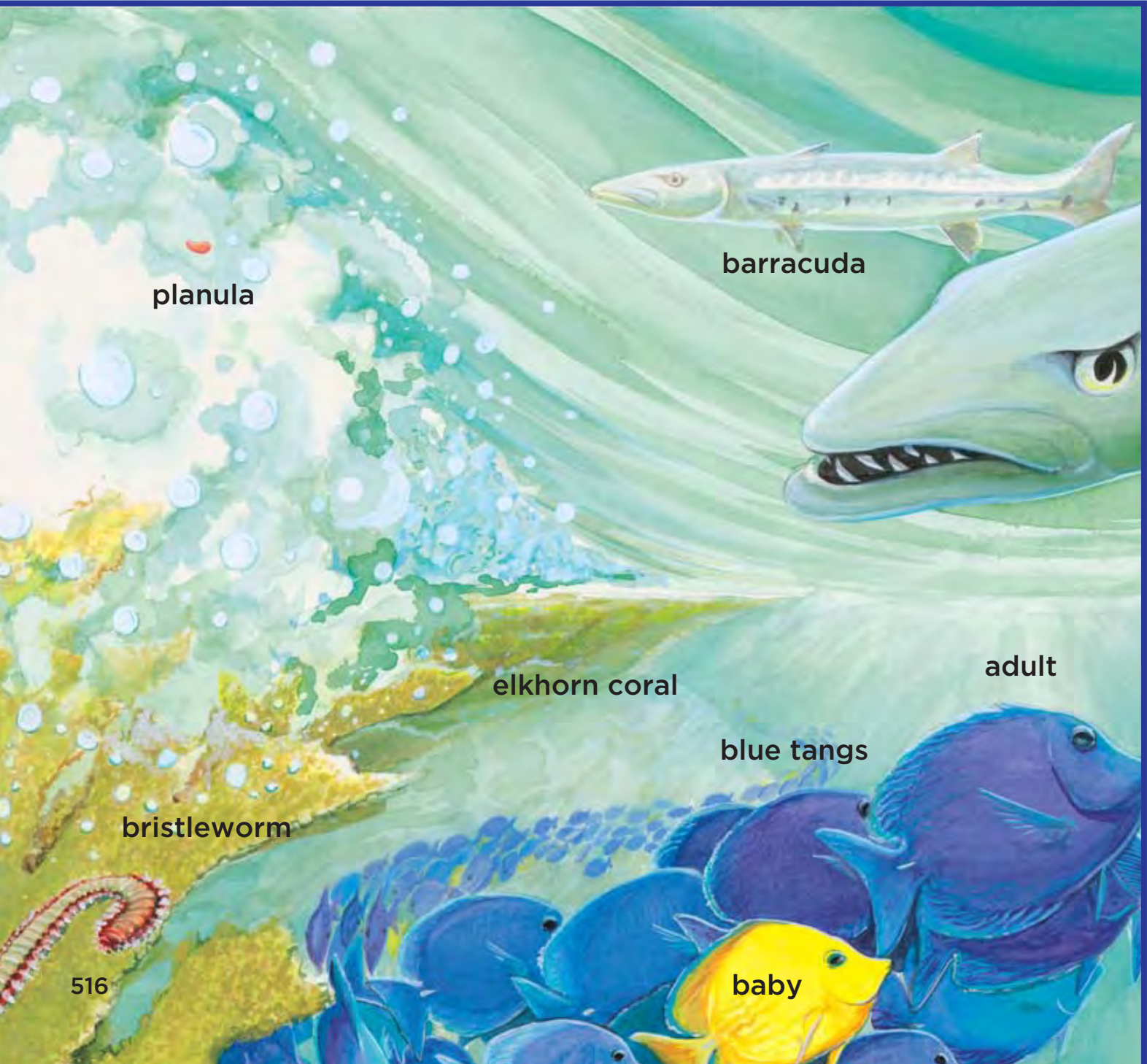
What are these pink things? Coral eggs! Once a year, coral polyps have babies. Eggs and sperm pop out of the polyps and float up and up to the top of the blue sea. There each fertilized egg becomes a baby coral called a planula. Now it is ready to search for a new home.

The planula is completely covered with little hairs. It swims by waving them through the water, but it cannot swim very fast. Watch out for those hungry wrasses!

Just in time, a big wave carries the planula away to the crest, or top, of the coral reef. Here the water is very shallow. Because it is so shallow, the waves break and crash into the reef.

Splash! Crash! The breaking waves make the water very rough. It's so rough that only a few animals can live here. A fireworm holds on tight. A school of blue tangs darts in and out, hunting for food.

Crash! Splash! Will this be home for the planula? No, it's too rough. The planula is swept along, riding a wave over the crest to the lagoon.



planula

barracuda

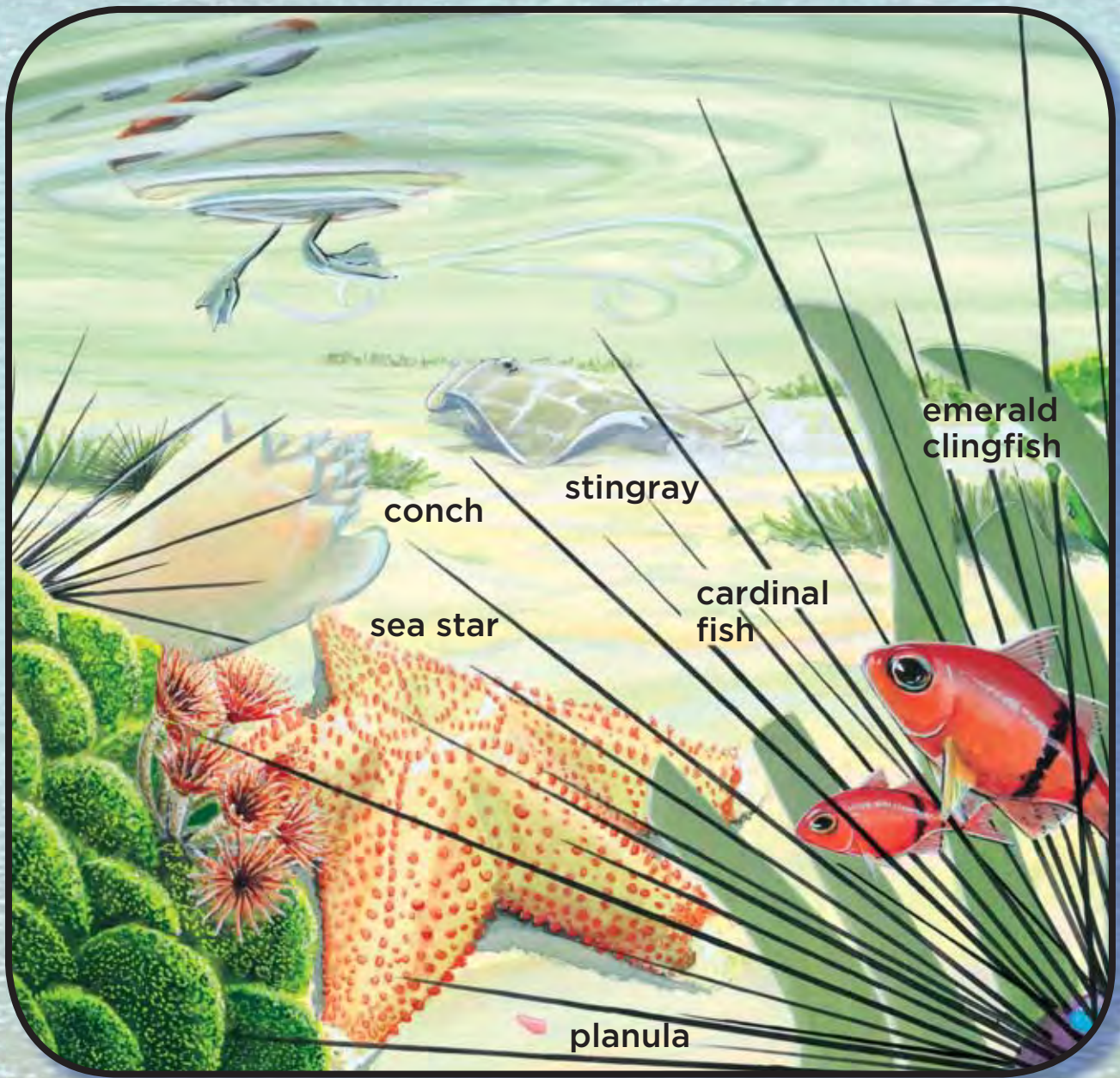
elkhorn coral

adult

blue tangs

bristleworm

baby



The water in the lagoon is calm. Although the lagoon seems peaceful, it is really a busy place, from top to bottom. At the top, a pelican gulps a pouchful of fish. At the bottom, a stingray slurps up shrimp.

Many animals looking for food in the lagoon are hard to see. An emerald clingfish hides on a blade of turtle grass. Clams and crabs hide in the sand.



Compare and Contrast

How are the crest at the coral reef and the lagoon alike and different?



worm

flashlight fish

brittle star

jellyfish

Such a busy place, day and night in the lagoon.

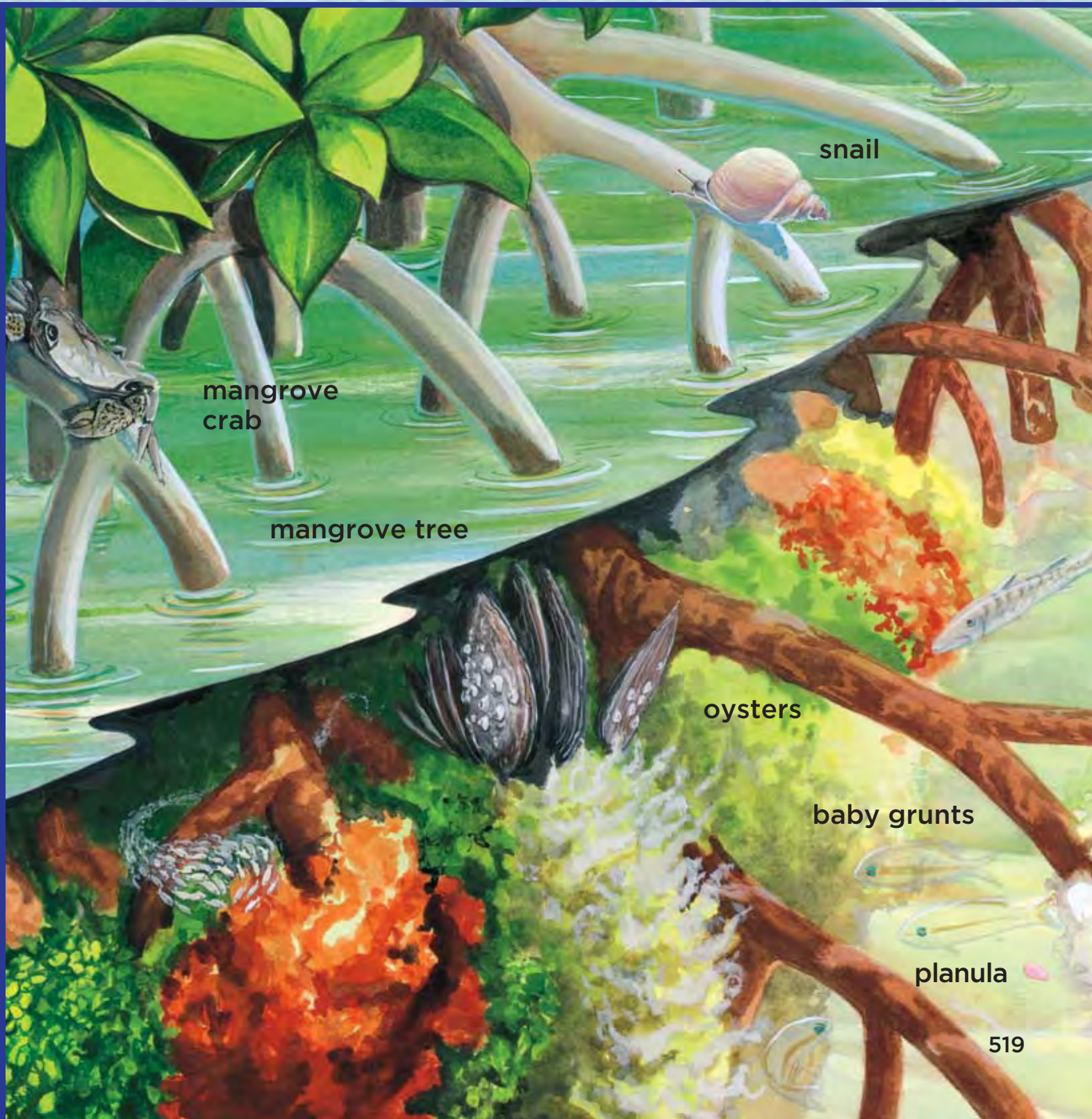
Flash! Glow! Blink! What could these lights be? They twinkle like stars in the sky, but they are all under water.

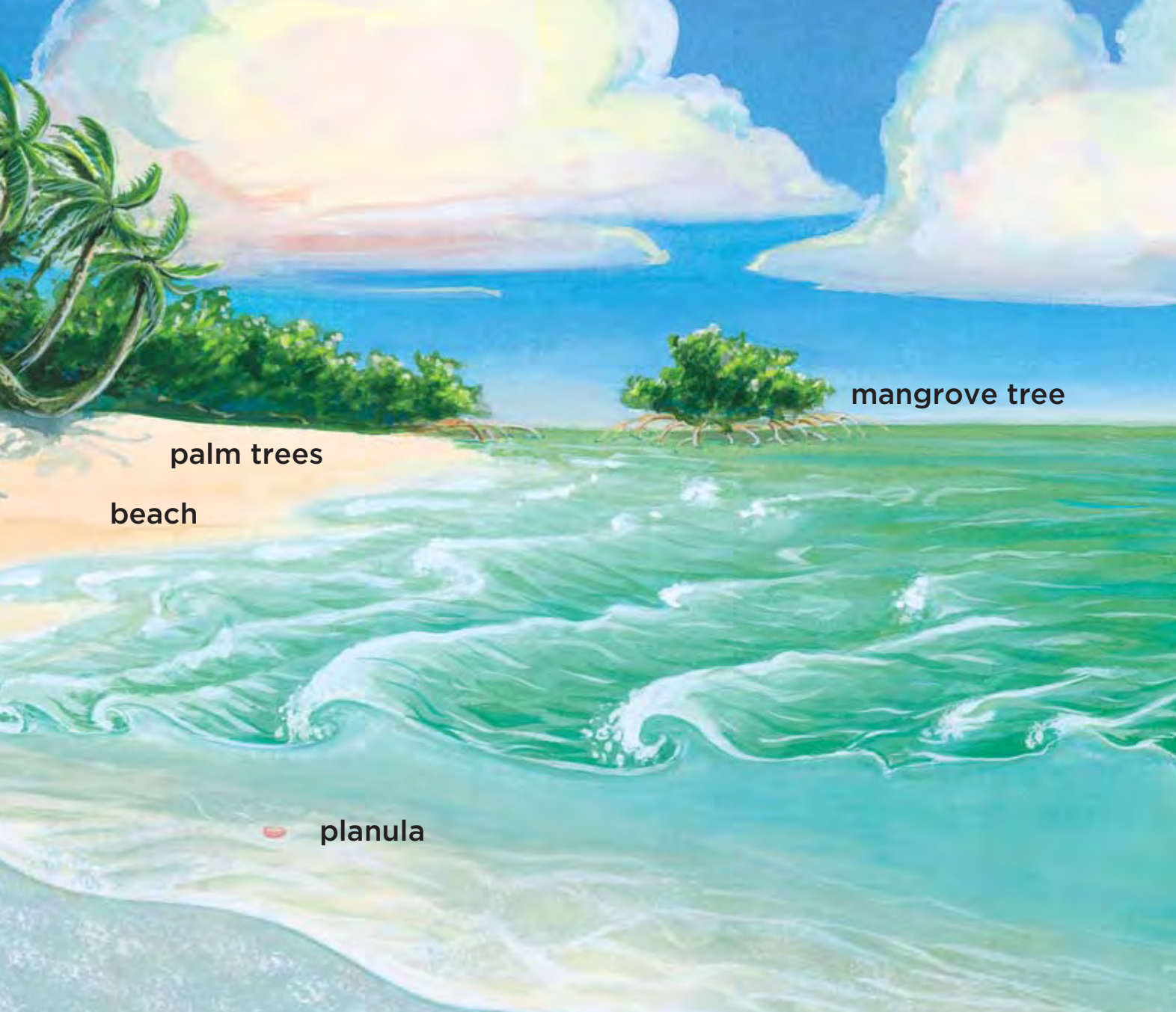
These lights are made by animals. Animals almost too small to see are twinkling. **Brittle** stars flash to scare away lobsters and crabs. Worms glow to show other worms where they are. Flashlight fish attract their food by blinking.

Can the planula live here? No, it is too sandy.

The planula needs a rocky place. It floats along to the red mangrove trees near the shore of the lagoon. Red mangroves can grow in salty water. Their roots grow out and hang down right into the ocean. Sponges and seaweeds grow on the roots.

Millions of baby fish and baby shrimp start life in the water around mangrove roots. There's lots of food for them there. Will this be a home for the planula, too?





palm trees

beach

mangrove tree

planula

No, the water here is too shady for the planula. It turns away and swims to the shallow water near the beach of the lagoon.

The sunshine heats the sandy beach. The sand was made by the ocean waves. Over thousands of years, the waves have pounded the skeletons of reef animals and plants into smaller and smaller bits. **Eventually**, the bits formed so many grains of sand that they covered the bottom of the lagoon and washed up on shore to make a beach.

Will this be home for the planula? No, it is too shallow and too hot here.

The planula catches a **current** to deeper water. Oh, no, the water is dirty! The water is so dirty, the coral is dying. The dirt smothers the coral polyps and blocks the sunlight they need.

Chemicals washed down the rivers from factories and farms poison the coral. In the dirty water harmful bacteria grow over the coral and kill it. Careless divers hurt the coral too. They step on it and break it with their boat anchors.

Without living coral, the fish and other animals will leave. The planula cannot live here either.

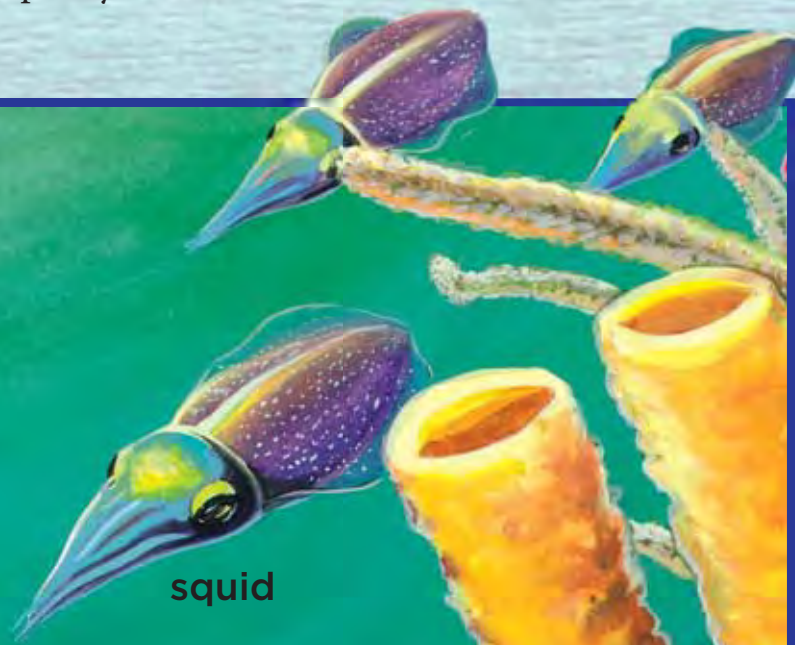


Luckily, a current carries it out of the lagoon, over the top of the reef, and down the other side of the reef deeper and deeper and deeper to a healthy part of the reef.

At last! A safe spot for the planula to settle down. The spot is hard and rocky. It is sunny but not too hot. Gentle currents bring clean water, and plenty of food. It will be a perfect home.



manta ray



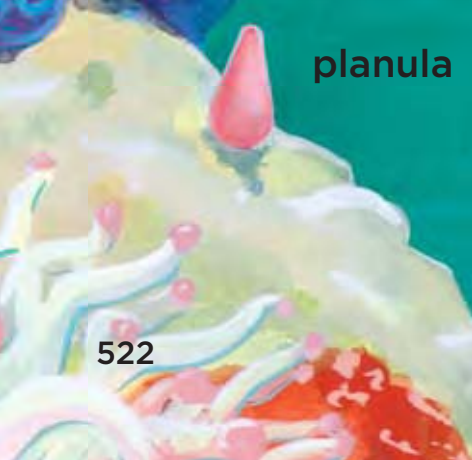
squid



sea squirts



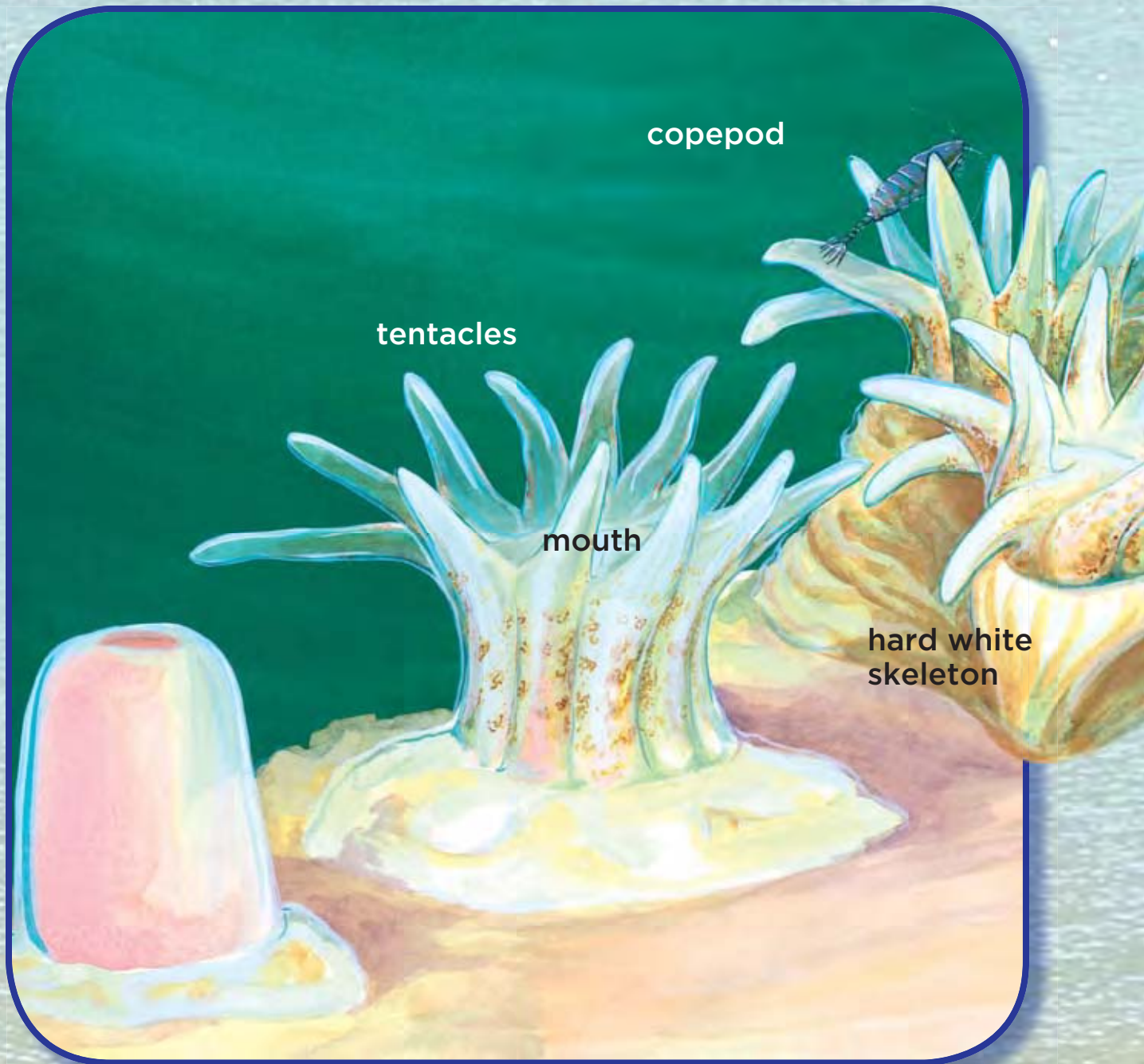
**vase
sponge**



planula

feather star

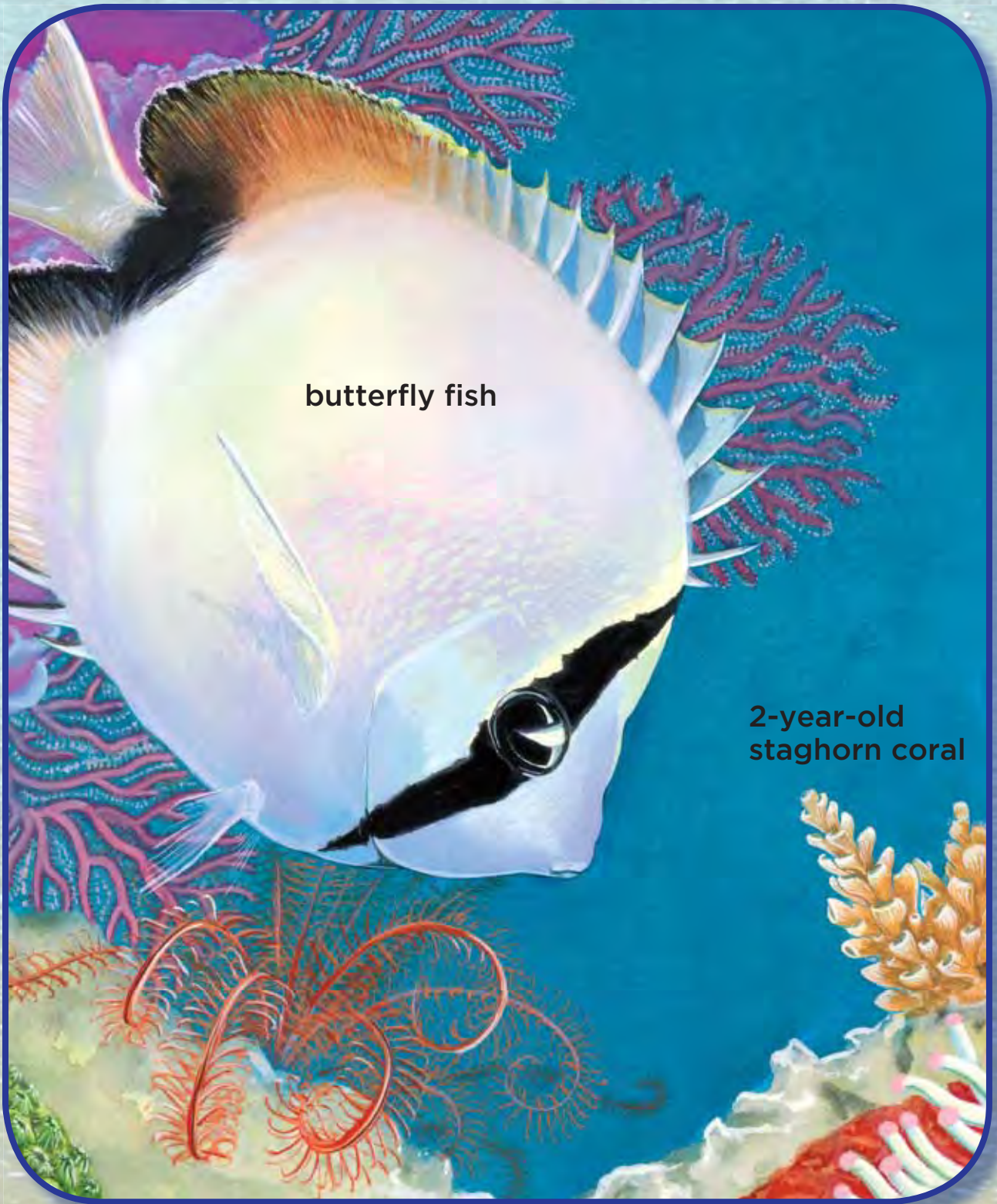




The planula begins to change. First, it sticks itself to a safe spot. Then, around its mouth it grows twelve little tentacles. Now it is a polyp. It looks like a flower, but it really is an animal.

Under its soft body, the polyp starts to grow a hard white skeleton. In a few weeks it makes another tiny polyp exactly like itself. The polyps are connected to each other. Together, the two polyps have twenty-four tentacles for catching food.

The planula is growing up to be a staghorn coral. More polyps grow, and more and more.



butterfly fish

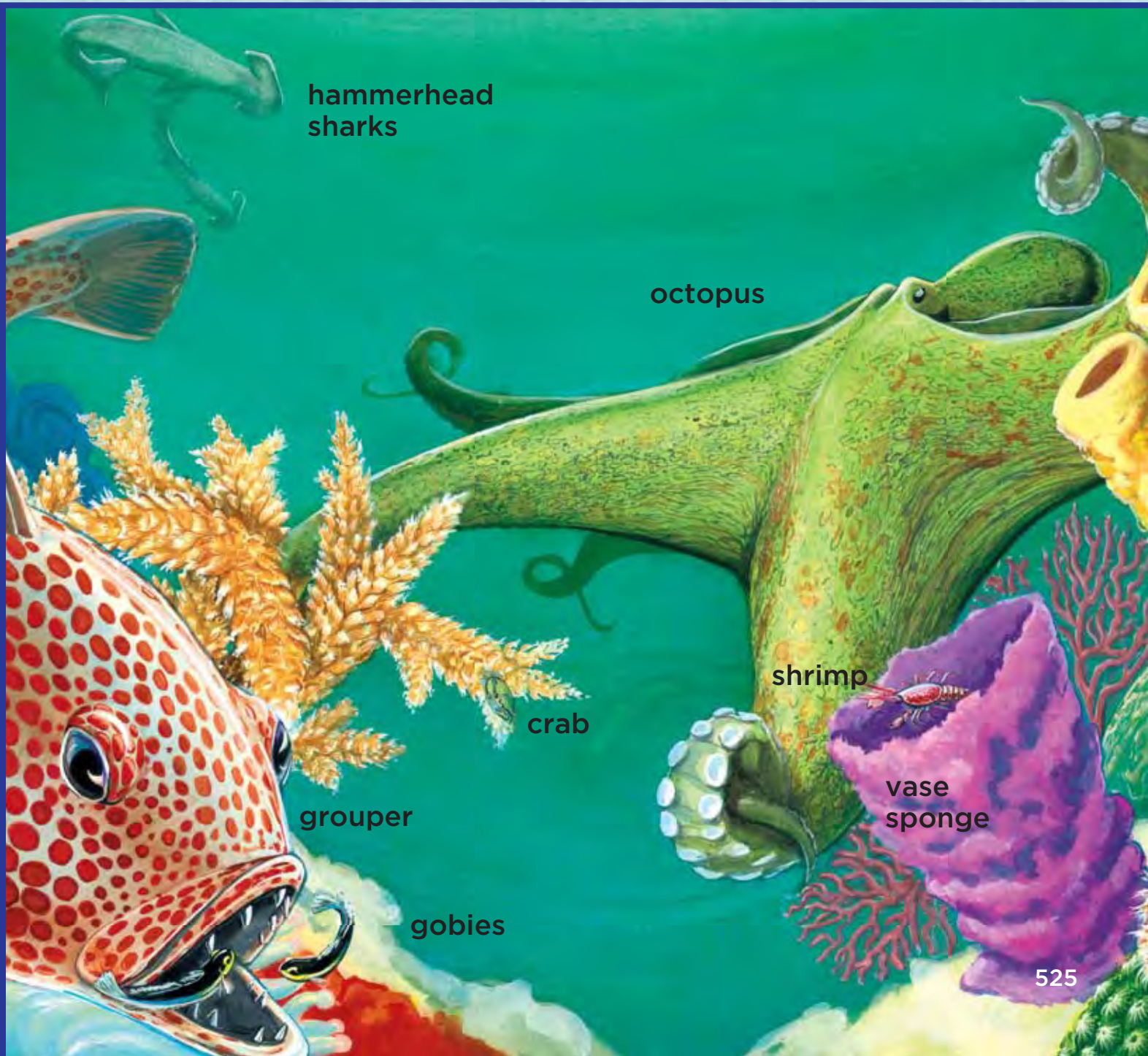
2-year-old
staghorn coral

Here comes a reef butterfly fish. It eats coral. The coral polyps warn each other of danger. Quick as a wink, they hug their tentacles in. They hide their soft bodies down inside their hard white skeleton. When the danger is past, the coral polyps slowly come out and open up their tentacles again.

Many creatures in the reef are partners that help each other hide or find food. A crab hides in the coral to escape from a hungry octopus. A shrimp lives safely inside a vase sponge.

At a cleaning station, gobies eat what they clean from the teeth of a big grouper. The grouper holds its mouth wide open for the gobies. Away from the station, the grouper would eat gobies!

Even the tiny polyps have partners. The polyps get special food from little golden plants living just inside their skin. In return, the plants get a home. This **partnership** helps the coral grow big enough to form reefs.



hammerhead
sharks

octopus

shrimp

vase
sponge

grouper

crab

gobies

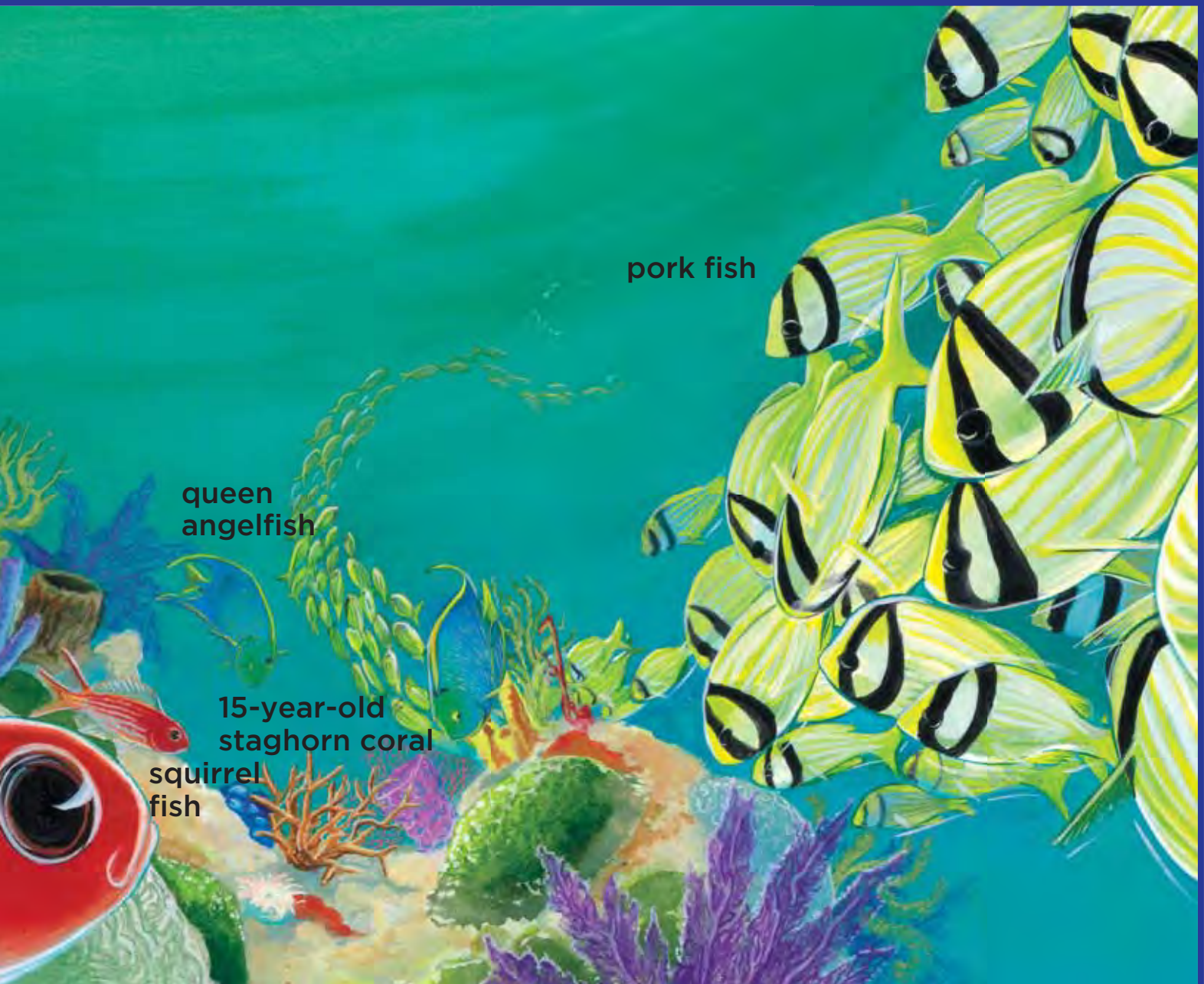
Down, down, down in the tropical clear blue sea, this coral reef is alive and well. The place where it lives is clean. Zillions of coral animals have been adding their skeletons to the reef for over 8,000 years.

It takes thousands of years for a reef to grow but only a few years for one to be destroyed! This reef and other coral reefs all around the world are in danger because the oceans are becoming dirty. Coral reefs need our help.



Compare and Contrast

How was the safe spot the planula chose different from the other places? How were they all alike?

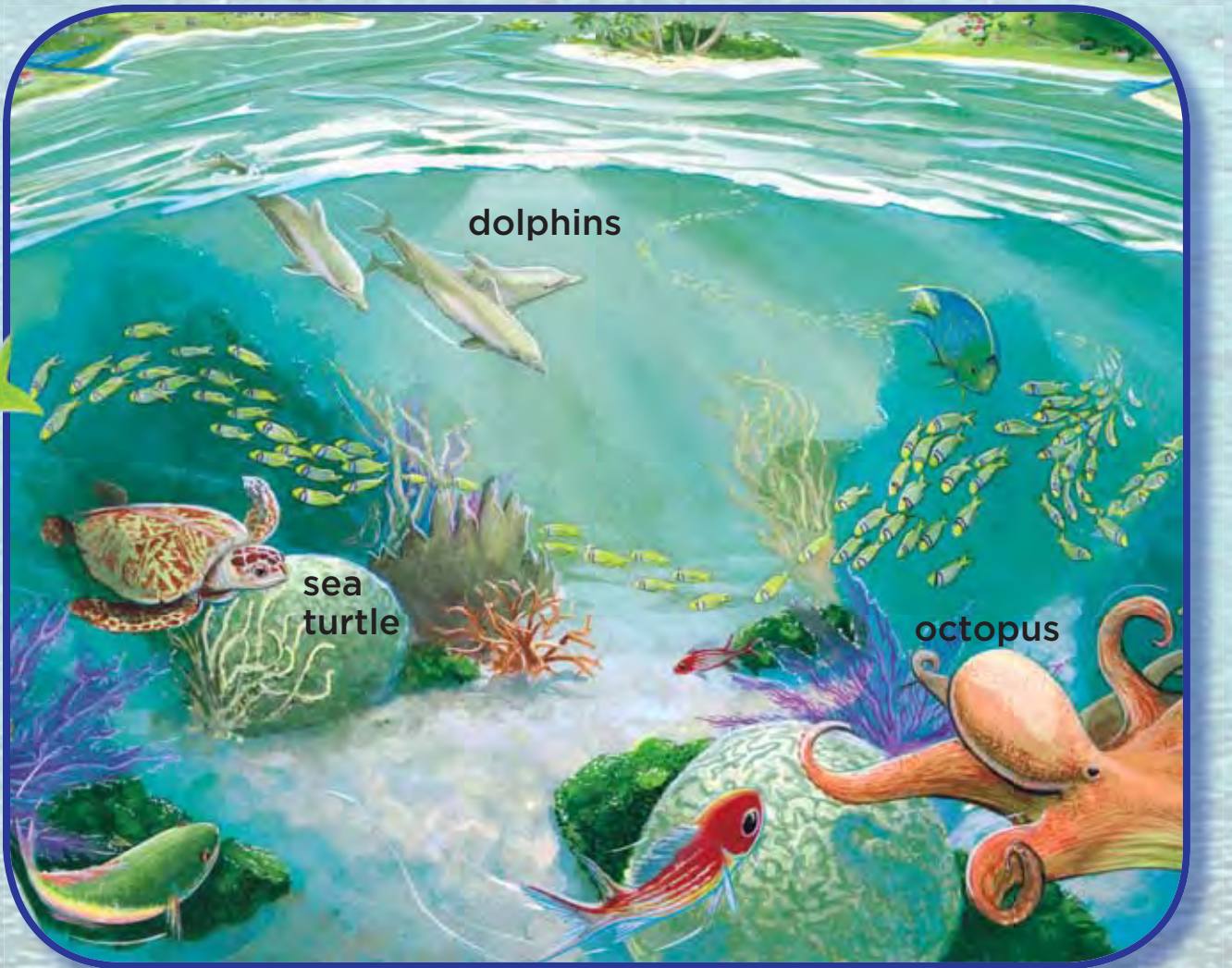


pork fish

queen
angelfish

15-year-old
staghorn coral

squirrel
fish



What can we do to help a little baby planula grow up to become part of a big coral reef? The first step is to discover how what we do on land affects life in the sea.

All living creatures—including corals and people—need clean water. We all use water on our farms, in our **suburbs**, and in our cities. We throw many things into it that make it dirty. This dirty water flows into rivers, lakes, and underground streams, and eventually ends up in the sea. There it hurts the coral reef and all the creatures that make it their home.

But we can make a difference. We can make our rivers and lakes and oceans clean again. We can learn about life on the coral reef and share what we learn. We can help people everywhere to care about the amazing reefs and the tiny coral animals that build them.

AT HOME WITH

Katy & Katherine



Katy Muzik is a marine biologist who specializes in octocorals—commonly known as sea fans. She has dived on coral reefs all over the world, including Fuji, Japan, Australia, and throughout the Caribbean.

Katy wrote *At Home in the Coral Reef* to share both her love of the sea and her concern for its rapidly declining health. She hopes that once people realize how beautiful, fragile, and important corals are, they will change their behavior to help preserve coral reefs. Katy lives near the ocean in Isabela, Puerto Rico.

Katherine Brown-Wing studied at the Art Institute of Boston. She works as a biological illustrator, and her pictures have been published in numerous scientific journals. Katherine lives in North Kingstown, Rhode Island, with her husband.



Find out more about Katy Muzik at www.macmillanmh.com

Author's Purpose

How do you think the author's job affected her purpose for writing *At Home in the Coral Reef*? What clues tell whether she wanted to inform, explain, entertain, or persuade?



Comprehension Check



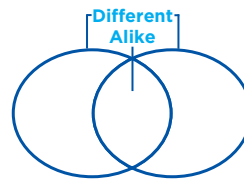
Summarize

Summarize what you learned from *At Home in the Coral Reef*. Include only the most important information in your summary.



Think and Compare

1. Use your Venn Diagram to show how the sandy beach and the coral reef are alike and how they are different. Use story details and illustrations to support your answers. **Analyze Text Structure: Compare and Contrast**



2. Reread pages 519–520 of *At Home in the Coral Reef*. Why do you think baby fish and baby shrimp live among the mangrove roots instead of in the **coral reef**? Use story details in your answer. **Analyze**
3. What changes in your life could you make to avoid adding pollution to ocean waters? Explain. **Synthesize**
4. Suppose there was a large increase in butterfly fish. How would this change the coral reef community? **Evaluate**
5. Read “Coral Reefs” on pages 510–511 and page 514 of *At Home in the Coral Reef*. What did you learn about hard and soft coral from each selection? Explain. **Reading/Writing Across Texts**

