

## How Elephants Live

Fill in the circle to complete the sentence. Then answer questions 3, 4, and 5.

1. The matriarch of a herd is \_\_\_\_\_.  
Ⓐ forgetful  
Ⓑ young  
Ⓒ wise
2. Because of the elephant's great size, it can \_\_\_\_\_.  
Ⓐ frighten its enemy  
Ⓑ move quickly  
Ⓒ learn from life
3. What is the importance of the herd's matriarch?

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4. How does an elephant's memory help it to live a long life?

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5. What do you think was the most interesting part of this text?

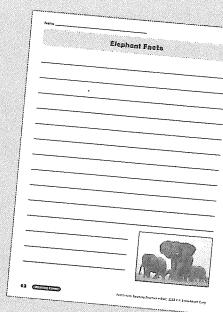
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### Write About the Topic

Use the Writing Form to write about what you read.

Compare an elephant herd with a human family.  
Write about some of the things they have in common.



# Coral Reefs in Trouble

## Level 1 ■

Words to Know list, Reading Selection, and Reading Comprehension questions

**Coral Reefs in Danger**

Corals are tiny animals. Groups of these tiny animals form reefs. Small hard parts form a rocky shape in the ocean water. A reef is an ecosystem where oceans, fish, and sea turtle live. Crabs, clams, and many kinds of fish live there, too. Corals are beautiful and colorful places. But some things must be in balance for corals to be healthy.

Many things can help the coral reefs. Corals have natural enemies. Some of them eat sea stars or urchins. These seaweed eaters can destroy a reef. So we can be careful about what we eat. This seaweed eaters can be helpful.

There is a tiny shape that lives inside corals. The algae make food for the coral. The coral gives nutrients back to the algae. The corals and algae live together. This is called symbiosis. There is trouble in the ocean because too many things are out of balance. The corals lose their beautiful colors, which is the algae to live. The corals lose their beautiful colors. That is known as coral bleaching. Without the algae, the corals will die.

People can help the coral reefs. They can keep the oceans clean. People can take care of their reefs by not touching them from coral reefs to keep more fish alive. People can use less energy. This means fewer harmful gases will be produced. The gases trap heat in the air and warm the oceans. Fewer harmful gases will help the ocean stay in balance.

**Words to Know**

coral reefs  
ecosystem  
balance  
crown-of-thorns  
seaweed  
poisons  
goby  
algae  
nutrients  
benefit  
symbiosis  
bleaching  
energy  
harmful

**Fill in the circle to complete this sentence.**

This reef is under water because it is a **coral reef**.

**Coral Reefs in Trouble 1**

**Coral Reefs in Trouble 2**

74 Coral Reefs in Trouble 1  
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## Level 2 ■ ■

Words to Know list, Reading Selection, and Reading Comprehension questions

**Saving Coral Reefs**

A coral reef is an ocean ecosystem that is full of life. Corals are tiny animals. A coral reef is a rocky shape made from the hard parts of corals. Corals reefs are colorful places where you can find parrotfish, sea stars, and sea urchins. And, too! Fish, like crabs, shrimps, and octopuses, live there. Some reefs cover hundreds of miles in warm, shallow ocean waters.

Many things must be in balance for a coral reef to be healthy. Corals have natural enemies. A fast-growing seaweed is one enemy. A fast-growing seaweed gives off poisons. But goby fish eat the seaweed. The gobies are bodyguards for the coral reefs.

A special kind of algae lives inside corals. The algae make food for the coral. The coral also gives nutrients to the algae. But the coral gives off wastes. When the wastes get too much, the coral loses its color. This is called coral bleaching. Without the algae, the coral bleaches and sometimes dies.

People can help save the coral reefs. They can keep the fish population strong by eating only fish that are safe. They can work to keep the oceans clean. People can cut down on the energy they use. This will stop harmful gases from trapping heat in the air. It will help keep the oceans from warming.

**Words to Know**

coral reef  
ecosystem  
shallow  
balance  
seaweed  
poisons  
goby  
bodyguards  
algae  
nutrients  
benefit  
symbiosis  
bleaching  
population  
energy  
harmful

**Fill in the circle to complete this sentence.**

A close look at corals shows the algae inside.

**Coral Reefs in Trouble 3**

**Coral Reefs in Trouble 4**

75 Coral Reefs in Trouble 3  
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## Level 3 ■ ■ ■ ■

Words to Know list, Reading Selection, and Reading Comprehension questions

**Coral Reef Ecosystem**

A coral reef is an ocean ecosystem that is full of life. A reef is made from the hard parts of tiny animals called corals. It is a rocky place to search for food. Many kinds of fish live there. Some corals live in warm, shallow ocean waters. Octopuses, sea stars, and sea urchins live there, too. There are many kinds of marine life in the ocean.

Many things must be in balance for a coral reef to be healthy. Corals have natural enemies. The crown-of-thorns sea star is one enemy. The crown-of-thorns star is a very fast grower. It grows quickly. Sea stars have enemies, too. Another enemy is a fast-growing seaweed. But the seaweed is not powerful. Another enemy is a goby fish. The gobies are bodyguards for the coral reefs.

A special kind of algae lives inside corals. The algae make food for the coral. The coral also gives nutrients to the algae. When two living things depend on each other in this way, it is called symbiosis. However, the ocean may become too warm. This causes the coral to release the algae. The algae need sunlight to live. This causes the coral to turn white. This is known as coral bleaching. Without the algae, the coral bleaches and might die.

People can do things to help the coral reefs. We can work to keep oceans waters clean. We can help the oceans turn fossil fuels for energy. On fishing nets, we can use biodegradable materials. By putting less energy into the oceans, we can help the coral reefs stay healthy.

**Words to Know**

coral reef  
ecosystem  
ridge  
shallow  
balance  
harm  
poisons  
goby  
algae  
nutrients  
benefit  
symbiosis  
bleaching  
population  
energy  
limits  
fossil fuels

**Fill in the circle to complete this sentence.**

More people riding in cars, cities, and buildings have caused coral bleaching.

**Coral Reef Ecosystem 1**

**Coral Reef Ecosystem 2**

76 Coral Reefs in Trouble 5  
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## Assemble the Unit

Reproduce and distribute one copy for each student:

- Visual Literacy page: Looking at a Coral Reef Ecosystem, page 71
- Level 1, 2, or 3 Reading Selection and Reading Comprehension page and the corresponding Words to Know list
- Graphic Organizer of your choosing, provided on pages 180–186
- Writing Form: A Coral Reef Dive, page 72

## Introduce the Topic

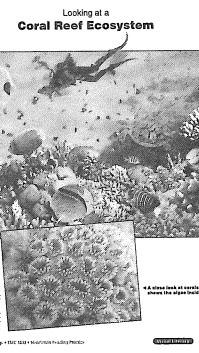
Review the photos with students. Explain that corals are not rocks or plants, but tiny ocean animals that live together in colonies. Reefs form from the hard skeletons of these animals. Corals come in many different shapes and colors.

## Read and Respond

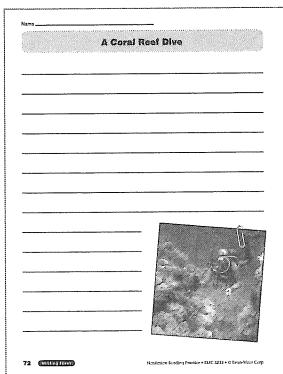
Form leveled groups and review the Words to Know lists with each group of students. Instruct each group to read their selection individually, in pairs, or as a group. Have students complete the Reading Comprehension page for their selection.

## Write About the Topic

Read aloud the leveled writing prompt for each group. Tell students to use the Graphic Organizer to plan their writing. Direct students to use their Writing Form to respond to their prompt.

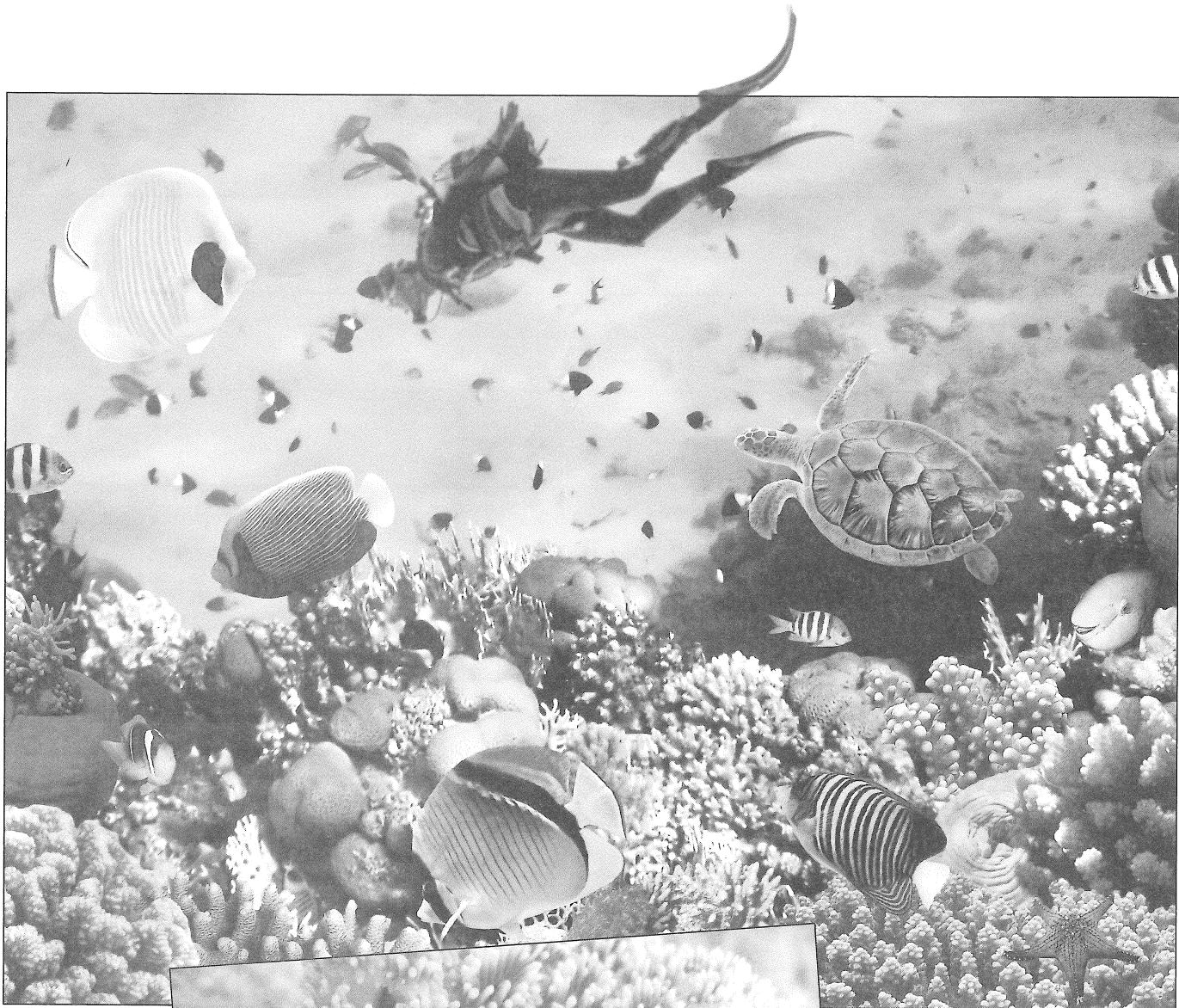


Visual Literacy

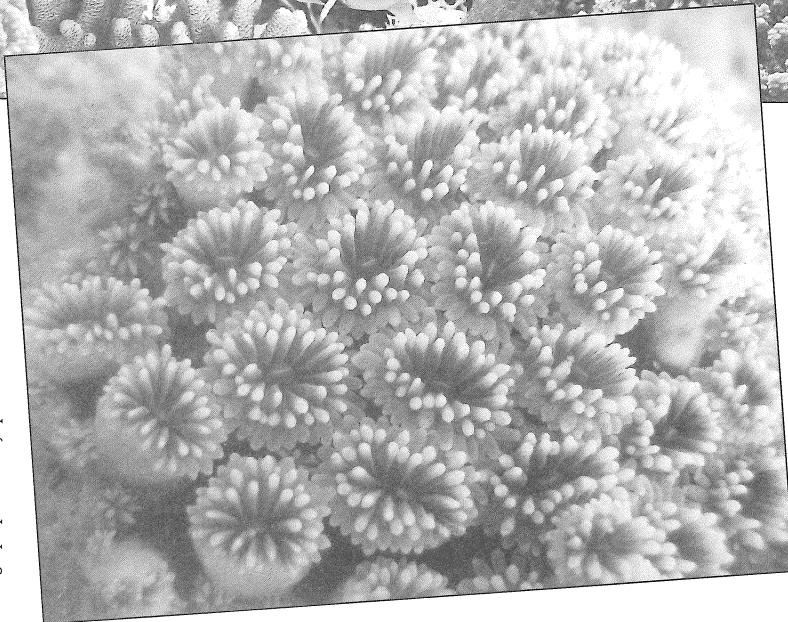


Writing Form

# Looking at a Coral Reef Ecosystem



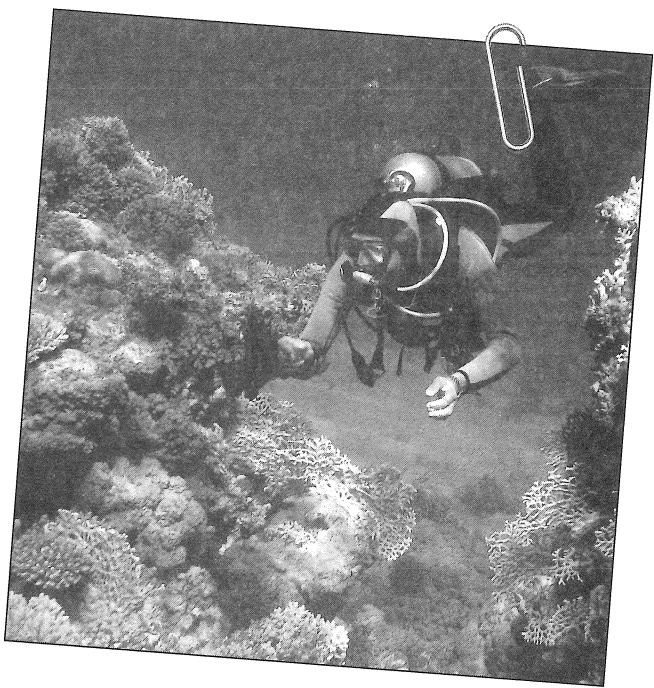
Photograph provided by: packmat



◀ A close look at corals shows the algae inside.

# A Coral Reef Dive

A black and white photograph of a scuba diver swimming over a coral reef. The diver is wearing a full scuba gear, including a tank, regulator, and fins. The reef is covered in various types of coral and rocks. A paperclip is attached to the right edge of the photo.



**Words to Know**  
**Coral Reefs in  
Danger**

coral reefs  
ecosystem  
balance  
crown-of-thorns  
seaweed  
poisons  
goby  
algae  
nutrients  
benefit  
symbiosis  
bleaching  
energy  
harmful

Coral Reefs in Trouble ■■

**Words to Know**  
**Saving Coral  
Reefs**

coral reef  
ecosystem  
shallow  
balance  
seaweed  
poisons  
goby  
bodyguards  
algae  
nutrients  
benefit  
symbiosis  
bleaching  
population  
energy  
harmful

Coral Reefs in Trouble ■■■

**Words to Know**  
**Coral Reef  
Ecosystem**

coral reef  
ecosystem  
ridge  
shallow  
balance  
harm  
poisons  
goby  
algae  
nutrients  
benefit  
symbiosis  
bleaching  
population  
limits  
fossil fuels  
energy

Coral Reefs in Trouble ■■■■



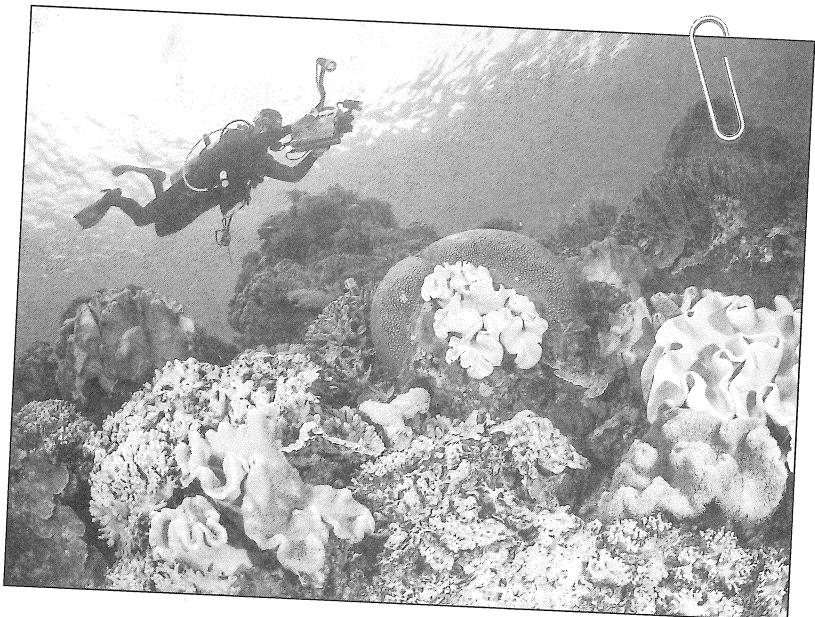
# Coral Reefs in Danger

Corals are tiny ocean animals. Groups of these tiny animals form coral reefs. Their hard parts form a rocky shape in warm ocean waters. A reef is an ecosystem where octopuses, sea stars, and sea turtles live. Crabs, shrimps, and many kinds of fish live there, too. Coral reefs are beautiful and colorful places. But some reefs are in danger.

Many things must be in balance for a coral reef to be healthy. Corals have natural enemies. The crown-of-thorns sea star is one. Large numbers of them can destroy a reef. So can a fast-growing seaweed. This seaweed poisons corals. But a type of fish, the goby, eats the seaweed. This allows the corals to live.

There is a kind of algae that lives inside corals. The algae make food, and they give corals their color. The corals also give nutrients to the algae. The corals and algae benefit each other. This is called *symbiosis* (sim-bee-OH-sis). There is trouble if the ocean becomes too warm for the algae to live. The corals lose their beautiful colors. This is known as coral bleaching. Without the algae, the corals bleach and may die.

People can help the coral reefs. They can keep the oceans clean. They can fish away from coral reefs to keep more fish alive. People can use less energy. This means fewer harmful gases will be produced. The gases trap heat in the air and warm the oceans. Fewer harmful gases will help the oceans stay in balance.



This reef diver uses an underwater camera to photograph mushroom corals.

## Coral Reefs in Danger

Fill in the circle to complete the sentence. Then answer questions 3, 4, and 5.

1. One danger to a coral reef is \_\_\_\_\_.

- (A) cleaner ocean water
- (B) the goby
- (C) ocean water that is too warm

2. Some living things benefit each other in \_\_\_\_\_.

- (A) an ecosystem
- (B) trouble
- (C) coral bleaching

3. Explain why algae and corals are an example of symbiosis.
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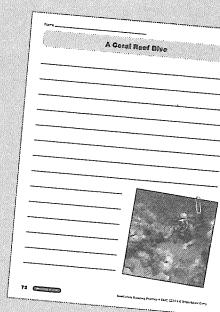
4. If you were an ocean scientist, what is one way you could learn if a coral reef was healthy?
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5. If you could interview an ocean scientist, what question would you ask about coral reefs?
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### Write About the Topic

Use the Writing Form to write about what you read.

Imagine you are a diver in a coral reef. Write about the things you saw on your dive today.



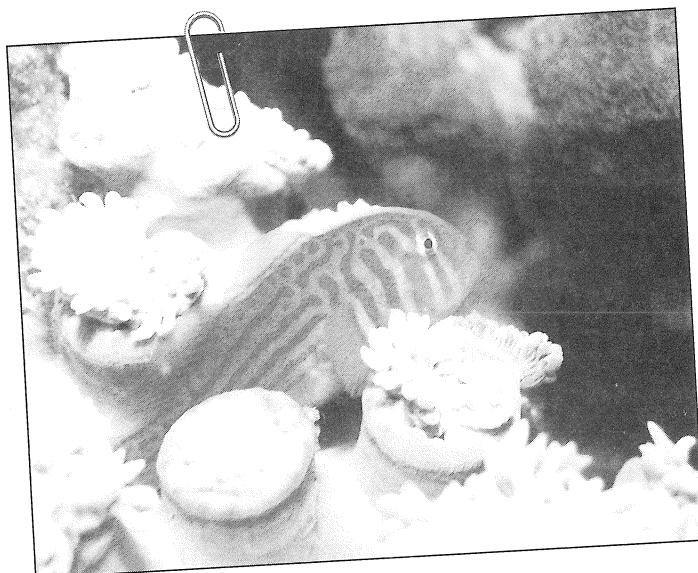
# Saving Coral Reefs

A coral reef is an ocean ecosystem that is full of life. Corals are tiny animals. A coral reef is a rocky shape made from the hard parts of corals. Coral reefs are colorful and beautiful. You can find octopuses, sea stars, and sea turtles in a reef. Crabs, shrimps, and many kinds of fish live there. Some reefs cover hundreds of miles in warm, shallow ocean waters.

Many things must be in balance for a coral reef to be healthy. Corals have natural enemies. A fast-growing seaweed is one enemy. The seaweed poisons corals. But goby fish eat the seaweed. The gobies are bodyguards that allow the corals to live.

A special kind of algae lives inside corals. The algae make food that corals need. The corals also give nutrients to the algae. When two living things benefit each other like this, it is called *symbiosis* (sim-bee-OH-sis). But the algae cannot live if the ocean becomes too warm. When this happens, the corals lose their beautiful colors. It is called coral bleaching. Without the algae, the corals bleach and sometimes die.

People can help save the coral reefs. They can keep the fish population strong by fishing away from reefs. They can work to keep the oceans clean. They can cut down on the energy they use. This will keep harmful gases from trapping heat in the air. It will help keep the oceans from warming.



A close look at corals shows the algae inside.

## Saving Coral Reefs

Fill in the circle to complete the sentence. Then answer questions 3, 4, and 5.

1. A natural enemy of corals is \_\_\_\_\_.  
Ⓐ the goby  
Ⓑ a kind of seaweed  
Ⓒ a special kind of algae
2. Coral bleaching can happen when \_\_\_\_\_.  
Ⓐ there are not enough algae  
Ⓑ corals take in algae  
Ⓒ gobies eat corals
3. What facts from the text show symbiosis between two living things?

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4. Some gobies keep their enemies away by giving off poison. Based on what you know about gobies, how would you explain this?

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5. What is the main idea of paragraph 4?

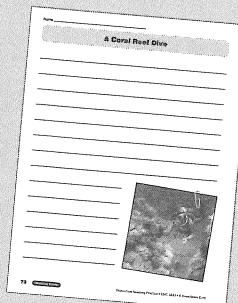
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### Write About the Topic

Use the Writing Form to write about what you read.

Imagine you are a diver in a coral reef. Describe the many living things you see there. Tell why you dive.



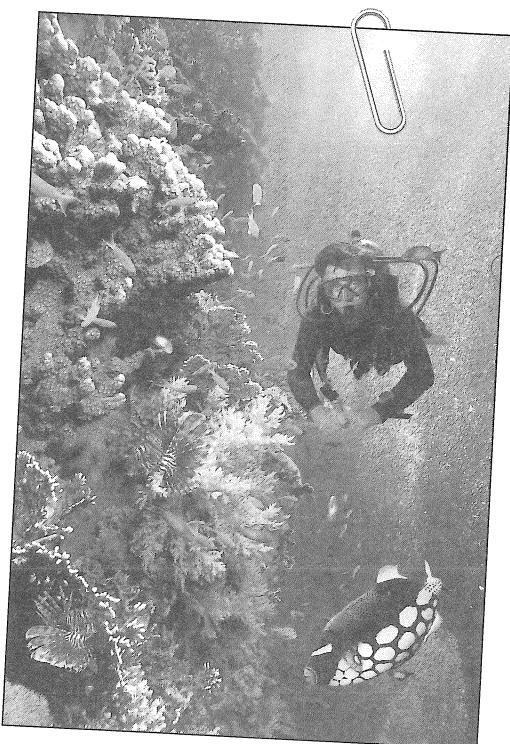
# Coral Reef Ecosystem

A coral reef is an ocean ecosystem that is full of life. A reef is made from the hard parts of tiny animals called corals. It is a rocky ridge that can stretch for hundreds of miles in warm, shallow ocean waters. Octopuses, sea stars, sea turtles, and many kinds of fish are at home in a coral reef.

Many things must be in balance for a coral reef to be healthy. Corals have natural enemies. The crown-of-thorns sea star is one enemy. Large numbers of these sea stars can harm a reef very quickly. A fast-growing seaweed is another enemy. This seaweed poisons corals. But goby fish eat the seaweed. This keeps the seaweed from touching the corals. It keeps the corals alive.

A special kind of algae lives inside corals. The algae make food that is used by the corals. The corals also give some nutrients to the algae. When two living things benefit each other in this way, it is called *symbiosis* (sim-bee-OH-sis). However, the ocean may become too warm for the algae to live. This causes the corals to lose their beautiful browns, greens, and other colors. This is known as coral bleaching. Without the algae, the corals bleach, and many die.

People can do things to help the coral reefs. We can work to keep ocean waters clean. We can help the fish population by putting limits on fishing near reefs. When people burn fossil fuels for energy, harmful gases are produced. This traps heat in the air and warms the oceans. By cutting down on the amount of energy we use, we can help the coral reefs stay healthy.



Many people enjoy scuba diving in coral reefs. A reef has unusual and beautiful ocean life.