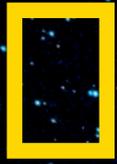


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NATIONAL
GEOGRAPHIC



Explorer

PIONEER

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What the



Will the Tasmanian devil win its fight against a disease?

By Brenna Maloney

Devil!

Wildlife and Wild Places

LIFE SCIENCE

As you read, think about what characteristics Tasmanian devils have that help them survive.



The sound is hard to describe.

It can be like a harsh cough. Or an angry hiccup. Or a sharp shriek. One thing is for sure. When a Tasmanian devil speaks, you should just listen!

Tasmanian devils come from the island of Tasmania. It's off Australia's southeastern coast. For years, the number of wild Tasmanian devils was growing smaller and smaller. Many were sick with a strange cancer. But now, their numbers are bouncing back.



Tasmanian devils are **nocturnal**, which means they are active at night. They are also **marsupials**. That's a kind of mammal like a kangaroo. A mother devil keeps her young in her pouch as they grow. The pouch helps her feed and protect her newborns, called imps.

Imps drink milk in their mother's pouch for four months. Then they leave her pouch and eat solid food.

Tasmanian devils are **scavengers**. They eat dead animals. They are not picky eaters. They will eat birds, lizards, and even dead farm animals!



Tasmanian devils eat dead animals.

actual size
at birth



From Imp to Devil

At birth: Each imp is the size of a raisin.

4 months: The imps leave their mother's pouch. They often ride on her back.

6 months: The imps begin eating solid food.

8 months: The young devils live on their own.

2 years: The devils are old enough to have their own young.

Adult life: Wild devils usually live five to eight years.



All About Tasmanian Devils

ears: look red when devils are excited because of thin skin



eyes: see in black and white

whiskers: help devils feel for food in the dark

teeth: can crush bone and tear skin

claws: used for digging dens and climbing trees

pouch: is a safe space for newborns to grow



skull: large with strong jaws



front legs: longer than back legs

fur: dark brown or black, often with a white stripe across the chest, shoulders, and rump



tail: stores fat for times when food is scarce

When it hunts at night, a Tasmanian devil might travel 16 kilometers (10 miles).



These Tasmanian devils “talk” over dinner.



In the Wild

The smell of food brings devils together. They create an order about who eats what—and when. They growl. They sneeze. They bark. Each sound means a different thing. They combine their sounds with biting. And that’s where trouble began.

Trouble in Tasmania

One day, a photographer took a picture of some devils. He saw growths on their faces. He showed his pictures to scientists. They learned that the devils had a rare kind of cancer. It spreads from devil to devil through biting. Devils often die from this cancer.

Breeding programs made sure that disease-free devils would live on.



This devil is released from a trap that helps scientists watch over its health.

Protecting Devils

Scientists wanted to help. They began breeding healthy devils in a safe place. These devils did not have the cancer.

They trapped wild devils to study them, too. They made records of each devil's health and then released them.

In the lab, scientists are working on a medicine for the sick devils. Some devils are getting better on their own.

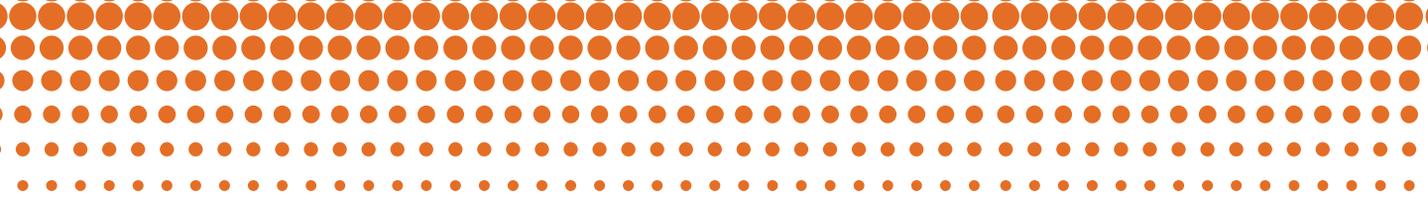
Everyone wants devils to get better. They are important animals!

WORDWISE

marsupial: a mammal (animal that has fur or hair and feeds its babies milk) whose young finish developing in a pouch on their mother's stomach

nocturnal: active at night

scavenger: an animal that eats dead animals



Make the World a Better Place



work as
a team



make
change



me



World
ce!

You can make a
difference.

By Lisa M. Gerry



The Human Journey

INFORMATIONAL TEXT

As you read, think about the main purpose of the story and the key message the author is trying to give.





Think Big

It's important to know about places in the world. Why? To make the world a better place. When you hear about a new place, find it on a map. What big cities are nearby? What languages do people speak? What is life like from day to day? This will help you make sense of the stories you read and news you hear.

Listen Closely

Every person has a story. It might be about their past. It could be about their hopes for their future. When people share their story, they are telling you who they are. Be a good listener.



WAYS TO BE A BETTER LISTENER:

- 1. TRY TO UNDERSTAND.** Don't worry about having all the answers. Try to figure out what the person is trying to say.
- 2. FOCUS.** Don't be distracted. Give the person who is talking your full attention.
- 3. DON'T INTERRUPT.** Give the person the space and time to speak the way they want to.
- 4. BE OPEN-MINDED.** When someone tells you something, they're trusting you with their feelings. Be respectful. Don't judge.
- 5. SHOW THEM UNDERSTANDING.** Let the person know that they are being heard.

Think About the Facts

Be a critical thinker. Think about facts. What happens when information is not checked? Then you have to find a source you can trust.



How can you trust a source? Ask these questions:

- 1. Who is the information from?**
- 2. Can I trust this source?**
Why or why not?
- 3. Does this source have a reason for sharing this information?**
- 4. What does this source get from my belief in this information?**
- 5. Do other sources I trust agree with this information?**



Work With Others

Changing the world is a big job. You might need some help. Don't go it alone. Try being part of a team!

Make new friends. Share with others. Be there for others when they need it. Together, you and your team can set goals. You can solve problems. You can also have fun.

There are many sports teams you could try out. There are also dance teams, choirs, and other clubs.

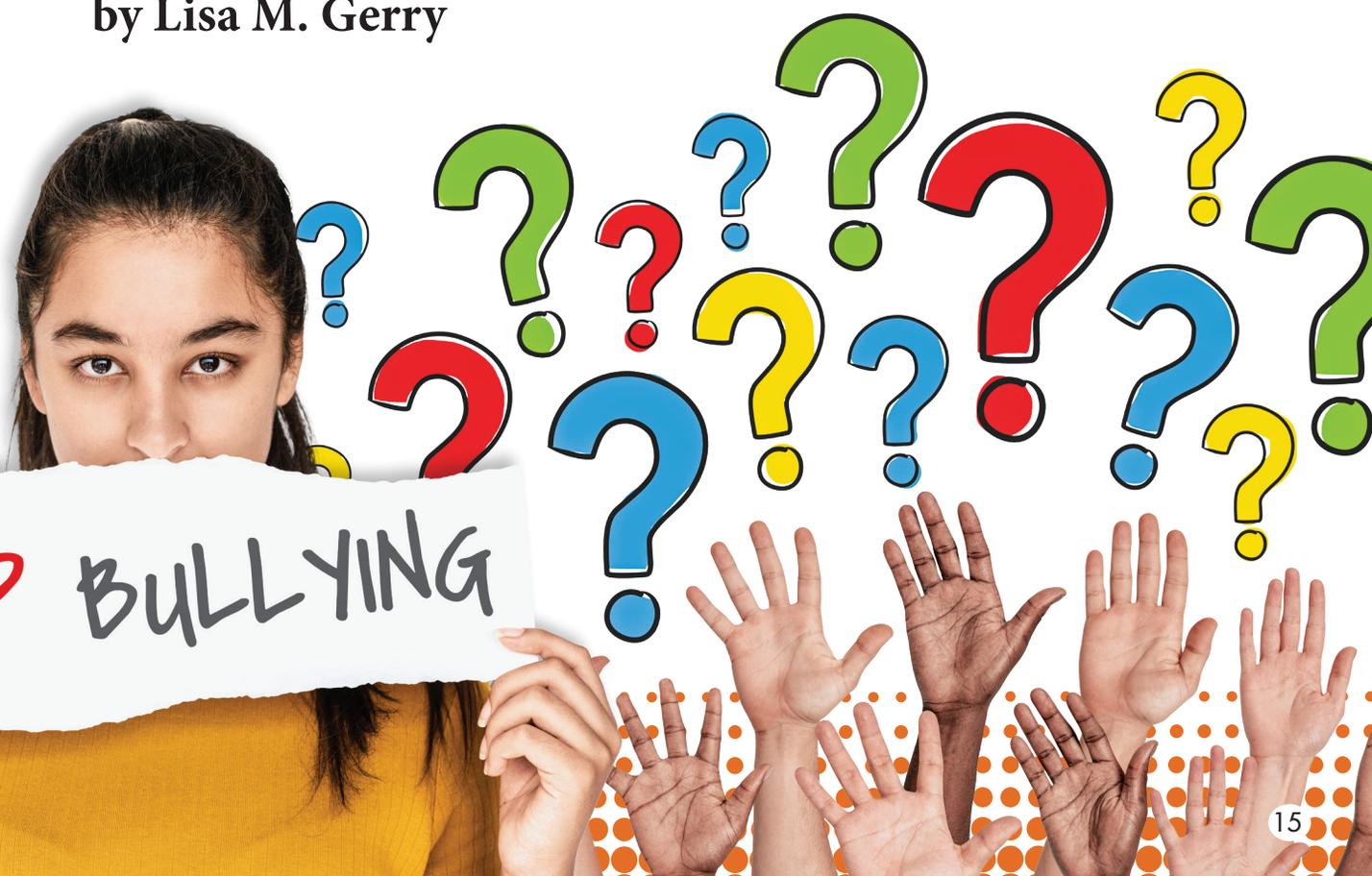
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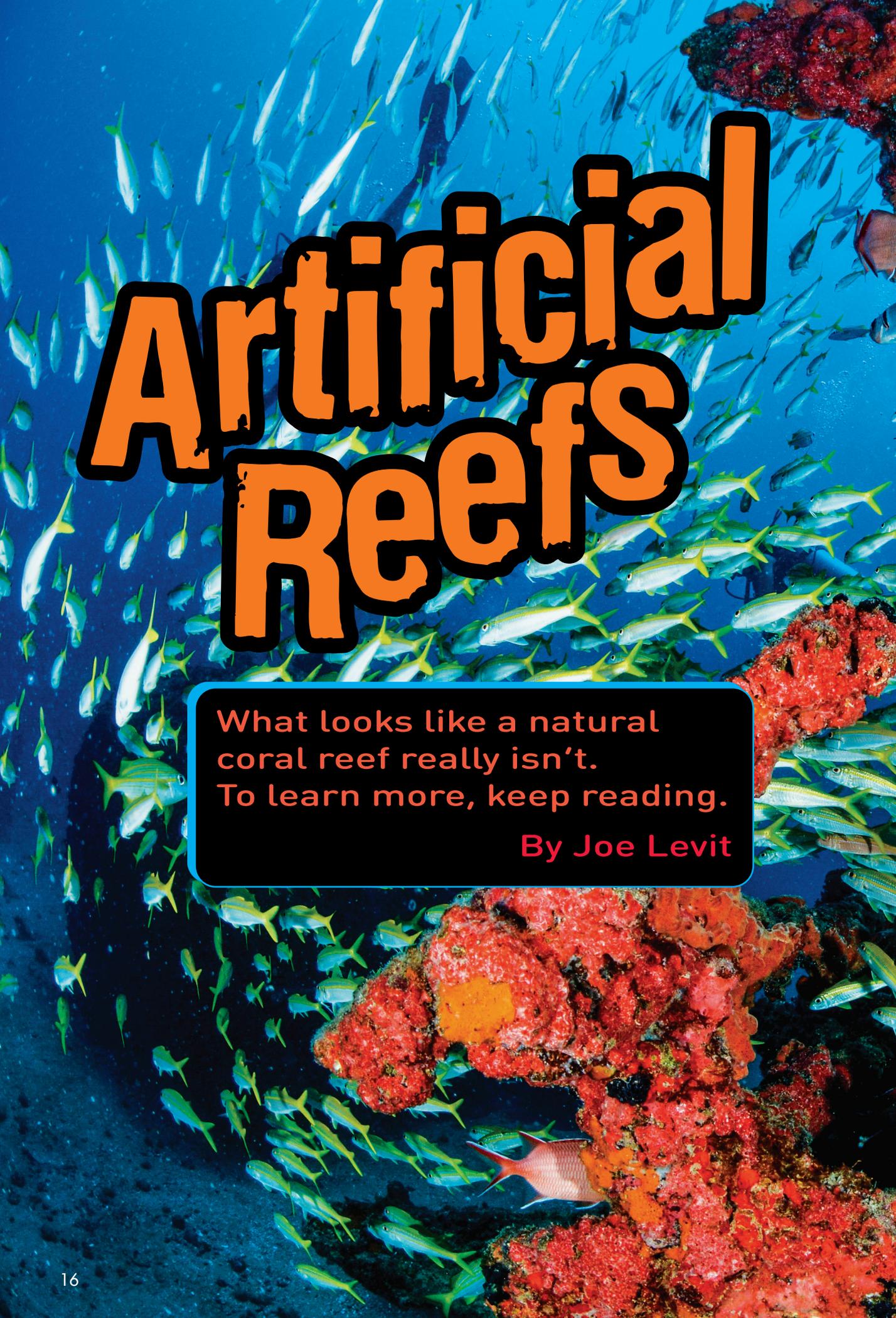
Stand Up for What's Right

Have you ever gotten into trouble for something you didn't do? That isn't fair! But, unfair things can happen in small ways and big ways.

You see someone being picked on. What do you do? It takes courage to speak up. Find a safe way to say or do something. Speak to a teacher, coach, or parent. Or say to the person, "I'm sorry that happened. You didn't deserve it."

**Want more suggestions on how to change the world?
Read "100 Ways to Make the World Better!"
by Lisa M. Gerry**





Artificial Reefs

What looks like a natural coral reef really isn't. To learn more, keep reading.

By Joe Levit

Wildlife and Wild Places

LIFE SCIENCE

As you read, think about how both natural and artificial reefs provide a habitat for many living things.



You're on a boat off the coast of Cancún, Mexico. You're getting ready for a reef dive. You check your gear. Then you dive into the cool water.

You swim down. You see something near the seabed. You swim closer and see ... a face! It is part of a statue. What is it doing here? It's part of an underwater museum. It's also part of an **artificial reef**. It was made to help protect natural reefs. Many have been damaged by divers.



A diver swims above an underwater statue.

This natural reef
is full of life.



Reefs in Trouble

Coral reefs are the largest living structures on Earth. Reefs play a big role in keeping our oceans healthy. They give food, shelter, and protection. Yet, reefs are in trouble!

Human activity can be hard on our oceans and reefs. Careless tourists and pollution can hurt reefs. Climate change affects them, too.

For example, thousands of divers visit the natural reefs in Cancún every year. Many are beginners. Some accidentally cause damage during their dives.

MUSA is an underwater art museum. It was created to draw people away from natural reefs and toward artificial ones. Many people now visit MUSA.

Getting Started

We can protect natural reefs. We can build artificial reefs. These are reefs built by people. These reefs can help in different ways. Some keep waves from wearing away the shoreline. Other artificial reefs are built to hold sand on beaches. And still others are made to create homes for ocean wildlife.

How do you build an artificial reef? A large object is placed on the flat sea bottom. It attracts plankton and small fish. This brings larger fish. Algae and corals grow. Over time, a reef forms.



This artist makes a statue for the underwater museum.



Corals grow on an artificial reef.



This rig may become part of an artificial reef.

Rigs to Reefs

Art isn't the only way to make a reef. Old oil rigs can be reefs, too! They are built in deep water. There, they drill for oil. When a rig is no longer in use, it just sits there. But now, some are used to make reefs.

The rigs are cut down and turned on their side underwater. These rigs can support marine life. This program is called Rigs to Reefs. In the United States, more than 500 rigs have been reused.

Accidental Reefs

Some artificial reefs are not planned. They are made from objects that don't belong in the ocean. These might be planes that crash or ships that sink. They become reefs by accident.



There's a place in the Red Sea off the coast of Egypt. Passing near it by ship can be dangerous. It is easy to strike the reef. Many ships have run into trouble here. There are four large shipwrecks on the seabed.

The *Giannis D* is one of the ships. It was carrying timber. It struck the reef, and the ship was damaged. The crew escaped. A storm later tore the ship into large pieces and sent them to the bottom. That was a long time ago. Now, it is covered in corals. It is home to many animals. Turtles, fish, and eels live there. Now, the ship is part of the sea.

A Future Hope?

Nothing can replace a natural coral reef. Yet, artificial reefs can make up for some of the loss. In time, plants and animals can thrive in these reefs.





WORDWISE

artificial reef: an underwater structure made by people, typically built to promote marine life in an area

coral reef: an underwater ecosystem that includes reef-building corals

Top: The wreck of the *Giannis D* lies on its side. Bottom left: A scuba diver looks at another shipwreck. Bottom right: A turtle feeds on corals attached to the wreck of the *Giannis D*.



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