Unit 2

Staying Alive

Unit at a Glance

- **Language Focus:** Describe, Explain
- **Reading Strategy:** Make Inferences
- **Phonics Focus:** Digraphs: *ph, th, qu;* Trigraphs: *thr, shr, squ*
- **Topic:** Adaptations, Needs

BIG Question

What does it take to survive?

RAJASTHAN, INDIA
A spotted owlet hiding in a tree trunk

Share What You Know

Do It!

1. **Look** at pictures of animals and places in nature.
2. **Match** the animals with their homes.
3. **Talk** with a partner about things that might help the animals live in each place.

PART 1 **Language Focus**

Describe

Listen and sing.

Words to Know

- has
- look
- to

Where Can My Butterfly Be?

Song

Oh where, oh where can my
butterfly be?
Oh where, oh where did it fly?
It **has** brown wings, and it flew **to**
this tree.
It's hard to find, but I'll try!

Its wings blend into this habitat.
It flutters down and sits still.
Its wings **look** like the brown leaves
on this tree.
It's hard to find, but I will!

Tune: "Oh Where, Oh Where Has My Little Dog Gone?"

Science Vocabulary

Key Words

How do **animals** and **insects** look? How does this help them in their **habitat**?

color

The iguana is green.

The polar bear is white.

shape

The fish has an oval spot.

The puffer fish is round.

size

This bear is big.

This ladybug is tiny.

Talk Together

Talk about the animals and insects on this page. How do you think their color, shape, and size help them survive?

Plot

The **plot** is what happens in a story. The story events happen in order. Show this in a story map.

Beginning-Middle-End Chart

Beginning

One day, Pablo finds a caterpillar.

Write the beginning here.

Middle

Pablo puts the caterpillar into a jar. Then, he watches what happens.

Write the middle here.

End

After two weeks, the caterpillar turns into a butterfly. Pablo opens the jar. He watches the butterfly fly away.

Write the end here.

Talk Together

Tell your partner about a nature walk you took or would like to take. Your partner makes a story map.

More Key Words

adaptation
noun

A turtle's hard shell is an **adaptation** that keeps it safe.

defend
verb

The mother **defends** her baby so that it stays safe.

hide
verb

She **hides** the gift so her father cannot see it.

safe
adjective

They wear helmets to keep their heads **safe** in case they fall.

survive
verb

Penguins **survive** cold weather by standing together to stay warm.

Talk Together

Work with a partner. Use **Key Words** to ask and answer questions.

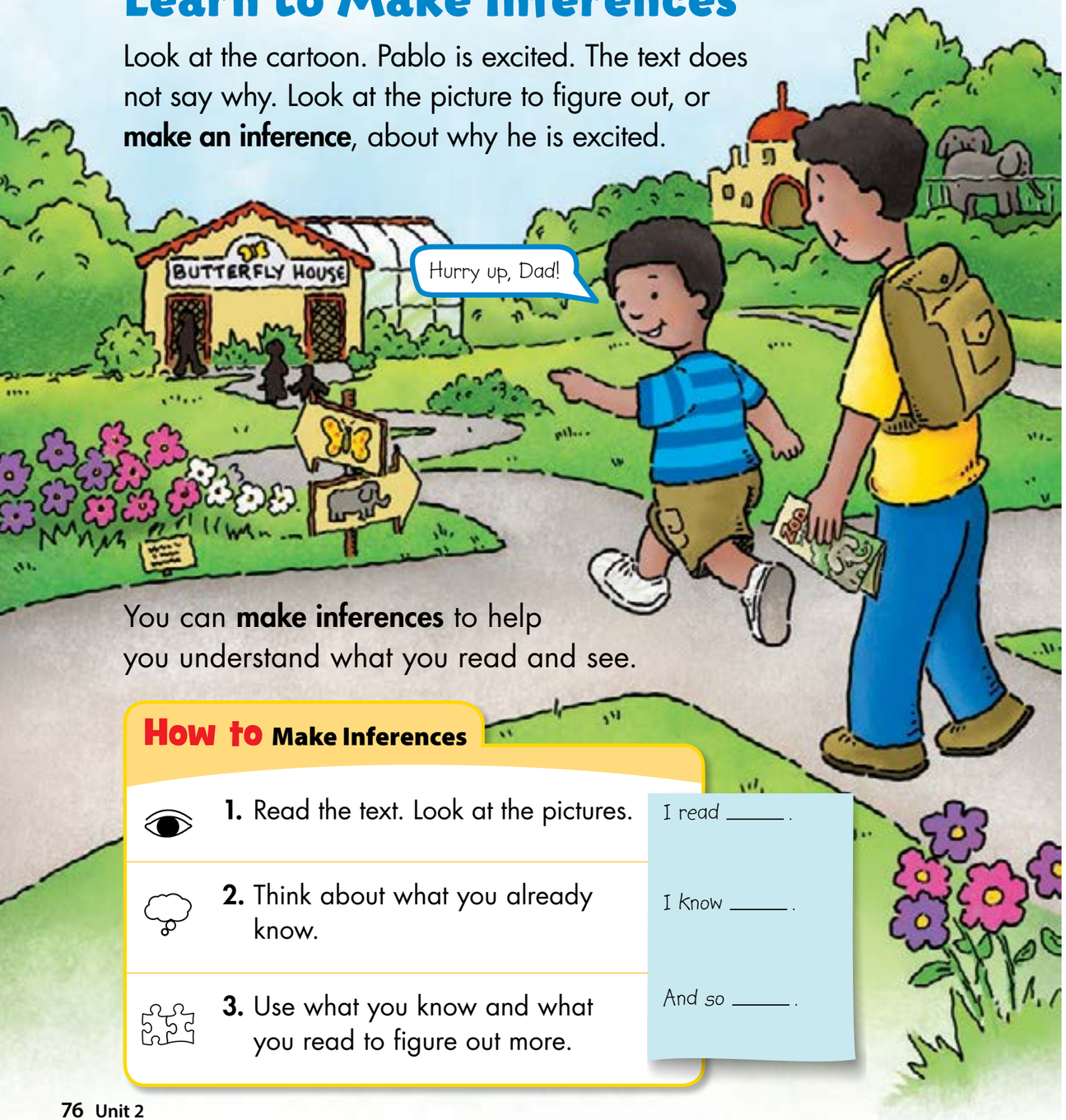
How do some animals defend their young?

They hide them to keep them safe.

PART 1 **Reading Strategy**

Learn to Make Inferences

Look at the cartoon. Pablo is excited. The text does not say why. Look at the picture to figure out, or **make an inference**, about why he is excited.



You can **make inferences** to help you understand what you read and see.

How to Make Inferences

1. Read the text. Look at the pictures.
2. Think about what you already know.
3. Use what you know and what you read to figure out more.

I read _____.

I know _____.

And so _____.

Language Frames

I read _____.

I know _____.

And so _____.

Talk Together

Read Pablo's journal. Read the sample inference. Then use **Language Frames** to tell a partner about your inferences.

Journal

Saturday, May 18, 20__

Today Dad brought me to the Butterfly House at the zoo. The Butterfly House has hundreds of butterflies that you can look at.

While we were there, my dad told me all about butterflies. He said that when butterflies land on flowers, they are not playing. They are really getting food. Butterflies need flowers to **survive**. Dad also said that some butterflies **hide** in trees and plants. Butterflies don't have many ways to **defend** themselves. However, their coloring is one **adaptation** that keeps them **safe**.

We are already planning another trip to the Butterfly House. Next time, I want to bring my camera!

Sample Inference

"I read that Pablo went to the Butterfly House at the zoo.

I know that Pablo likes butterflies.

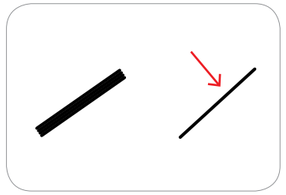
And so I can guess that Pablo had a great time."

◀ = A good place to make an inference

PART 1 **Phonics Focus**

Digraphs: *ph, th, qu*

phone



thin

queen

Listen and Learn

Listen to the sound of the digraphs at the beginning of the picture words. Choose the words that have the same beginning digraphs as the picture words.

1.

pocket phone think

2.

treat trace thick

3.

quiz thing scope

4.

trim this trace

Talk Together

Listen and read. Find the words with the digraphs in the beginning or middle of words.

Over to You

Is That a Bug or a Stick?

You might look at a tree and not know an insect is there. The giant walking stick looks like a stick. It has the same color and shape. It looks like part of the tree. It is hard to see.

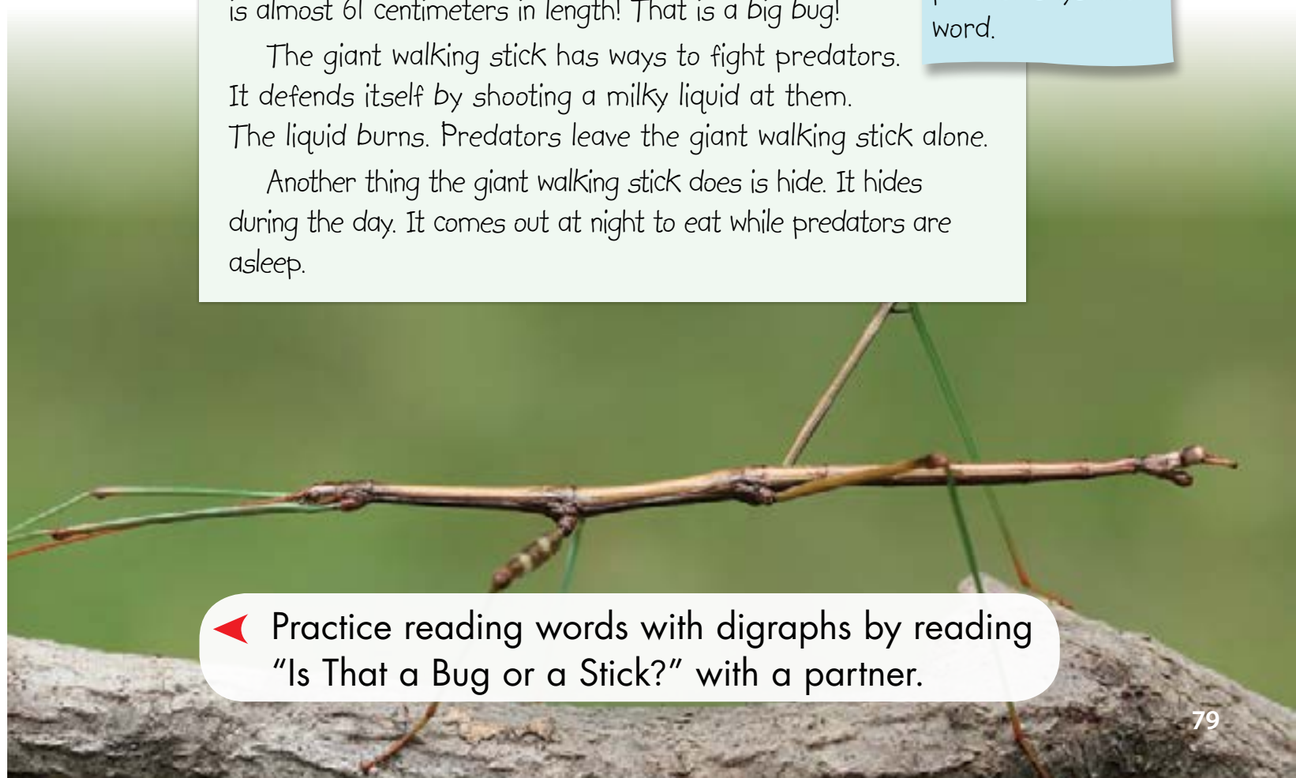
Other insects are big. But this insect wins a trophy for its size. It is long and thin. Its body is 33 centimeters in length. That is quite long. When it is stretched out, it is almost 61 centimeters in length! That is a big bug!

The giant walking stick has ways to fight predators. It defends itself by shooting a milky liquid at them. The liquid burns. Predators leave the giant walking stick alone.

Another thing the giant walking stick does is hide. It hides during the day. It comes out at night to eat while predators are asleep.

Work with a partner.

Take turns. Point to a word with a *ph, th,* or *qu* digraph. Your partner says the word.



Practice reading words with digraphs by reading "Is That a Bug or a Stick?" with a partner.

Read a Story

Genre

This story tells about things that could really happen. It is **realistic fiction**.

Plot

The events in a story are the plot.

The plot in this story tells what happens when a Screech Owl hunts for food.

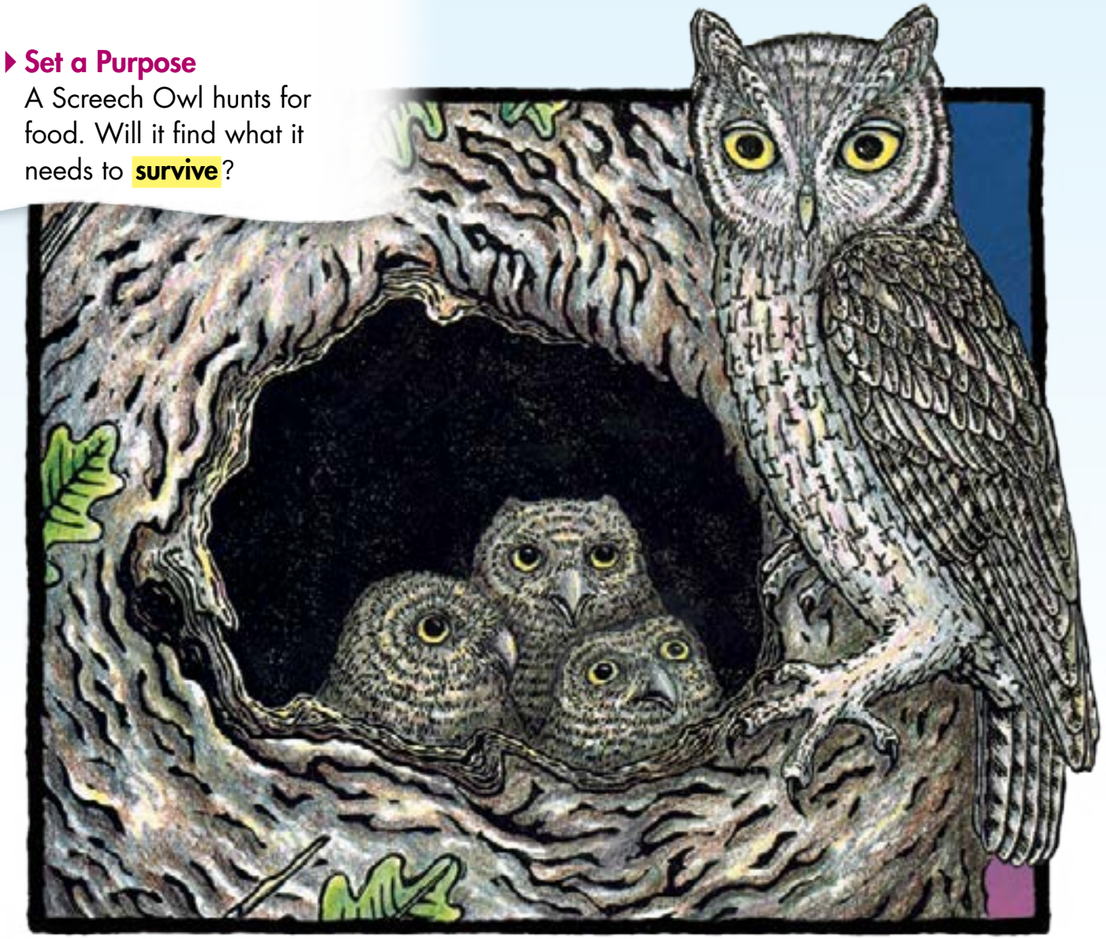
Twilight Hunt

A Seek-and-Find Story

written and illustrated
by Narelle Oliver

Set a Purpose

A Screech Owl hunts for food. Will it find what it needs to **survive**?



It is **twilight.** The babies **are hungry**.

The Screech Owl's **hunt** must begin.

Screech Owl

twilight early night
are hungry need food
hunt search for food

On **silent** wings, the Screech Owl flies.

It watches for **movement**. It listens for tiny sounds.

At that moment a Bark Moth **flutters toward** a tree.

Bark Moth

silent quiet
movement **animals** or **insects** that move
flutters toward flies to

Can the Screech Owl **snap it up**?
The moth **has disappeared**.

snap it up catch the moth
has disappeared has gone where it cannot be seen

Nearby a Katydid **hops**.
The Screech Owl follows it.

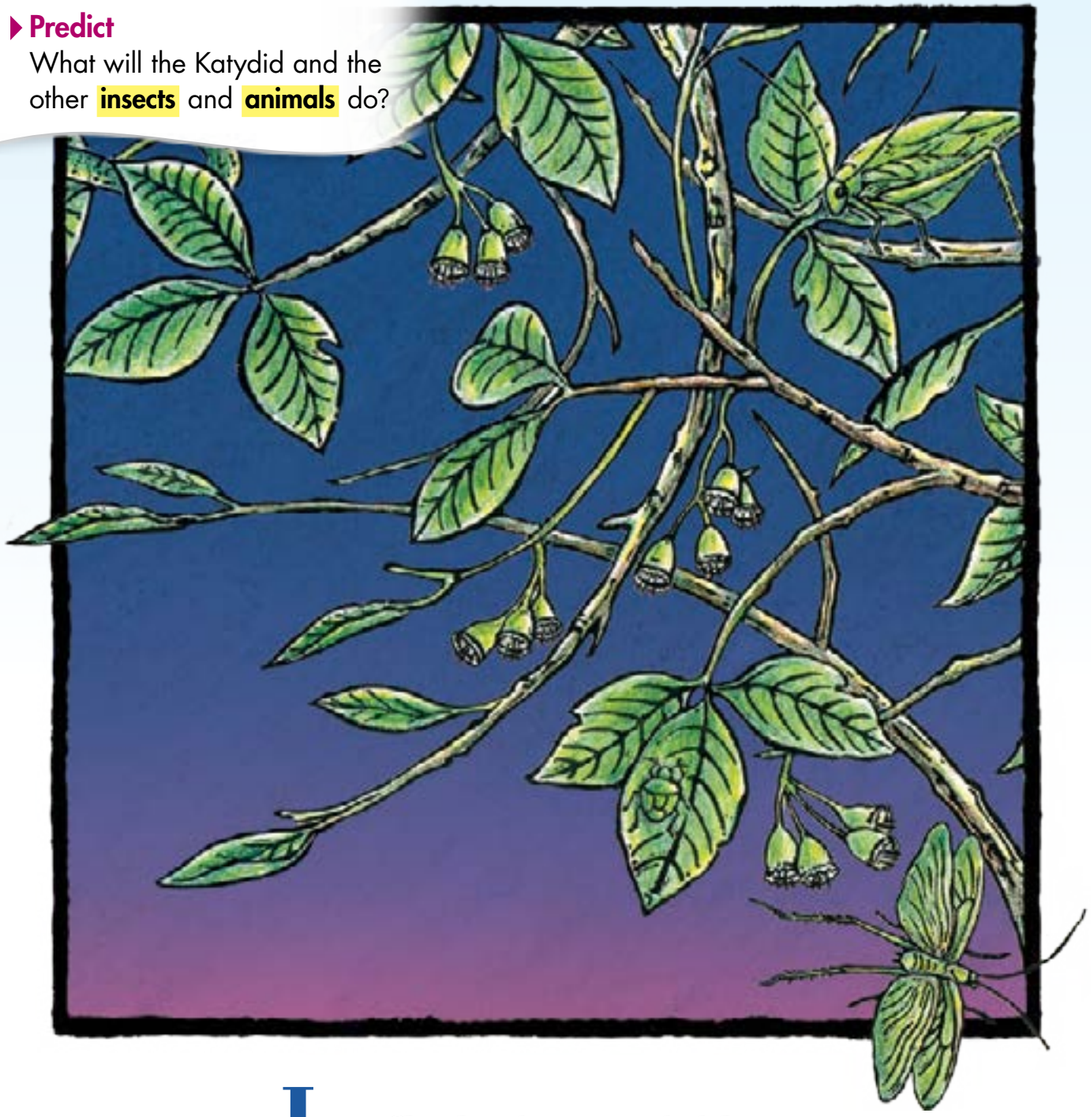
Katydid ▶

Nearby Close by
hops jumps

Before You Continue

1. **Sequence** What does the Screech Owl do at the beginning of the story? Why?
2. **Plot** What happens when the Screech Owl sees the Bark Moth and Katydid?

Predict
What will the Katydid and the other **insects** and **animals** do?

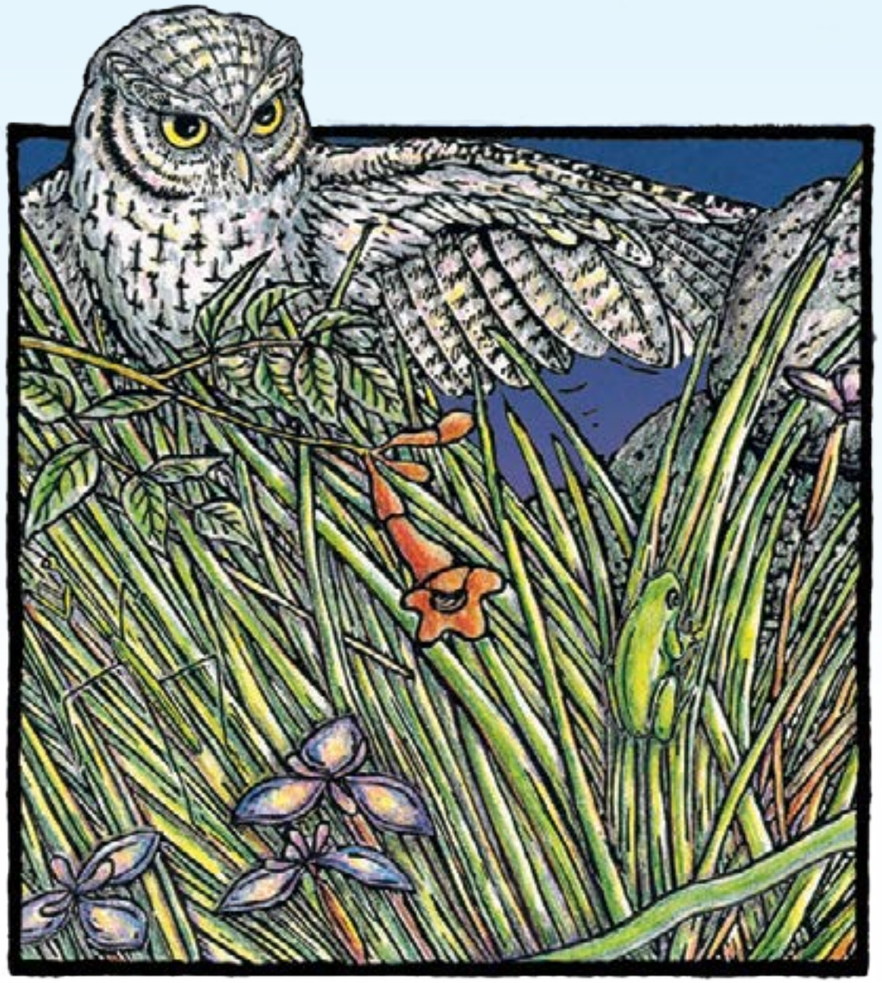


In a flash, the Katydid **has vanished**.

In a flash Quickly
has vanished has gone away

Out from the leaves, a Treefrog jumps.

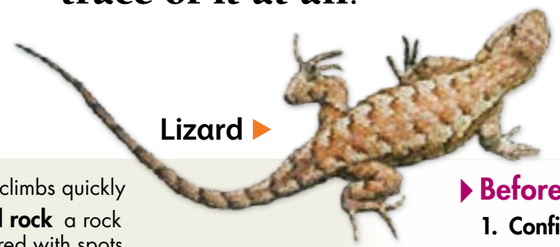
Treefrog ▶



All of a sudden, it is **nowhere to be found**.

All of a sudden Just then; Suddenly
nowhere to be found gone

A Lizard **scuttles** up a **speckled rock**. **In the blink of an eye**, there is **no trace of it at all**.



Lizard ▶

scuttles climbs quickly
speckled rock a rock covered with spots or patches
In the blink of an eye Soon
no trace of it all nothing to see

Before You Continue

1. **Confirm Predictions** Was your prediction correct? How did the Katydid stay **safe**?
2. **Make Inferences** Why is it so hard for the Screech Owl to catch **insects** and **animals**?

Predict
Will the Screech Owl ever find food?

Finally, a **giant** Luna Moth **drifts** down. There is no **escape**. The hunt is over.

Luna Moth

giant very big
drifts flies slowly
escape place to hide

Far away, a Great Horned Owl is watching.

Great Horned Owl

Sensing danger, the Screech Owl
swoops to land.

Sensing danger, Something is wrong, so
swoops to land quickly flies down

With feathers pulled tight, the
Screech Owl has disappeared.
So, the Great Horned Owl **flies on**.

With feathers pulled tight By making its body small
flies on goes away

The Screech Owl waits. It is silent and **still**.

Then **noiseless** wings take the **hunter** home. ❖

still not moving
noiseless quiet
hunter Screech Owl

Before You Continue

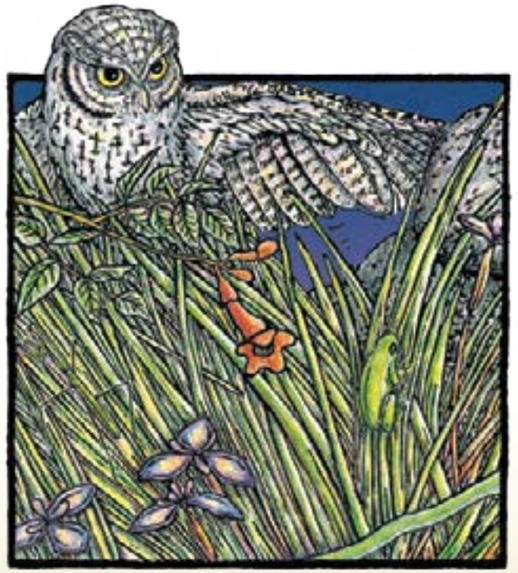
1. **Confirm Predictions** Was your prediction correct? Does the Screech Owl find food? What happens?
2. **Make Inferences** Why do you think the Screech Owl hides from the Great Horned Owl?

AWARD WINNER

Meet the Author

Narelle Oliver

As a girl growing up in Australia, Narelle Oliver enjoyed exploring the local countryside. Now, Ms. Oliver writes and illustrates children's books about nature. Before she wrote "Twilight Hunt," Ms. Oliver explored the forests where owls live.



Writing Tip

The writer uses precise words such as *flutters* and *swoops* to tell exactly how animals and insects move. Find more precise words. Say each word as you act out how something moves.

PART 1 **Think and Respond**

Talk About It

1. What is something from the story that screech owls do in **real life**? Read it aloud and then answer.

   Real screech owls ____.

2. Choose an **animal** from the story. **Describe** what you read about its **color**, **shape**, and **size** in the story.

   The ____ is ____. It has ____.

3. The Screech Owl hunts for food at twilight. Tell how the owl does this.

   When the Screech Owl hunts, it ____.

Write About It

Find your favorite picture in "Twilight Hunt." Write a caption to tell what is happening.

This picture shows ____.

Reread and Retell

Plot

What happens at the beginning, middle, and end of "Twilight Hunt"?

Beginning-Middle-End Chart

Beginning
Screech Owl goes on a hunt. She must find food for her babies.
Middle
End

Now use your chart. Tell your partner the plot, or what happens, in "Twilight Hunt."

In the beginning, ____.
In the middle, ____.
At the end, ____.

Fluency

Practice reading with the correct expression. Rate your reading.

PART 1 **Word Work**

Use a Dictionary

You can **look in a dictionary** for word meanings. Use alphabetical order to find the words. Find the word **adaptation** in the dictionary.

Guide words show the first and last words on the page.

Words are listed in alphabetical order.

absorb ➤ belong

A

absorb
verb
To **absorb** is to take in or soak up.

*The mop **absorbs** the water.*

adaptation
noun
An **adaptation** is a feature of an animal that helps it live.

*A turtle's hard shell is an **adaptation** that keeps it safe.*

aid
verb
To **aid** is to help someone.

*The police officer **aids** the girl. She helps the girl find her way home.*

animal
noun
An **animal** is any living creature that can breathe and move around.

*A horse is an **animal** you can ride.*

a b c d e f g h i j k l m n o p q

The definition gives the meaning of a word.

Try It Together

What words come after **adaptation** on this dictionary page? Where would you find the word **attract**?

Making Connections Find out how some living things **hide** in their **habitats**.

Genre A **science article** can give facts about living things.

Hide and Seek

From *Weekly Reader*

Habitats

Animals and **insects** live in different **habitats**. To stay **safe**, they **use camouflage**. This helps them **blend into their environments**. On the next pages, see if you can find the hidden creatures.

▲ There are many trees in a **forest.**

The waters of the **ocean** are filled with life. ▼

▲ A **rain forest** gets a lot of rain each year.

use camouflage **hide** by looking like the things around them

blend into their environments look like their **habitats**

Forests

In a forest, trees give **shelter** and food. Here, a mantis uses its **shape** to hide in leaves.

◀ A mantis is on this plant. Can you find it?

praying mantis

shelter safe places to live

Before You Continue

1. **Make Inferences** How does camouflage help **animals** and **insects** stay **safe**?
2. **Predict** Look at the headings at the top of pages 102–103. What do you think you will learn on those pages?

Oceans

In the ocean, many animals use **color** to **match** their habitat. Do you see the goby fish?

goby fish

▲ Where is the goby fish in this photo?

Rain Forests

A rain forest is home to many plants, **animals**, and **insects**. Here, a leaf katydid uses its **shape** and **color** to look like a plant. ❖

leaf katydid

▲ A leaf katydid is **hiding**. Can you find it?

match look like

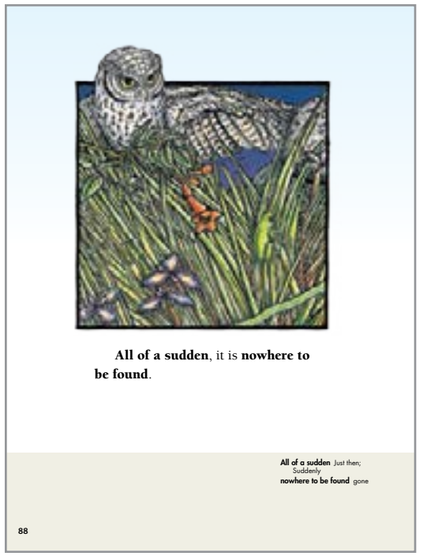
Before You Continue

1. **Confirm Prediction** What did you learn about **animals** and **insects** on pages 102–103? Was your prediction correct?
2. **Make Inferences** How does camouflage help a leaf katydid to **survive**?

Compare Genres

How are "Twilight Hunt" and "Hide and Seek" the same? How are they different?

Realistic Fiction



All of a sudden, it is nowhere to be found.

All of a sudden Just then; Suddenly
nowhere to be found gone

88

tells about things that could really happen

Science Article

Forests

In a forest, trees give **shelter** and food. Here, a mantis uses its **shape** to hide in leaves.

A mantis is on this plant. Can you find it?

praying mantis

shelter safe places to live

Before You Continue

1. **Make Inferences** How does camouflage help **animals** and **insects** stay **safe**?
2. **Predict** Look at the headings at the top of pages 102–103. What do you think you will learn on those pages?

101

gives facts about living things

Talk Together

What does it take to **survive**? Draw a picture of an **animal** in its **habitat**. Then tell the class how the animal survives there. Use **Key Words** as labels.

Action and Helping Verbs

An **action verb** tells what someone or something does. Sometimes a **helping verb** works with an action verb.

Grammar Rules Action and Helping Verbs

For Action Verbs	
• Use **-s** at the end of an action verb if the subject is **he**, **she**, or **it**.	A Screech Owl **hunts**. She **hunts**.
• Do not use **-s** for **I**, **you**, **we**, or **they**.	The mother owls **hunt**. They **hunt**.
For Action Verbs with Helping Verbs	
• A **helping verb** comes before the **main verb**.	A Katydid **can vanish**. Katydids **can vanish**. A tree frog **might jump**. Tree frogs **might jump**.

Read Action and Helping Verbs

Read these sentences. Find the action and helping verbs.

Lizards can scuttle up the rock.
The Great Horned Owl does not see the Screech Owl.

Write Action and Helping Verbs

Write two sentences that describe what the Screech Owl does. Use action and helping verbs. Share your sentences with a partner.

PART 2 **Language Focus**

Explain

Listen and chant.

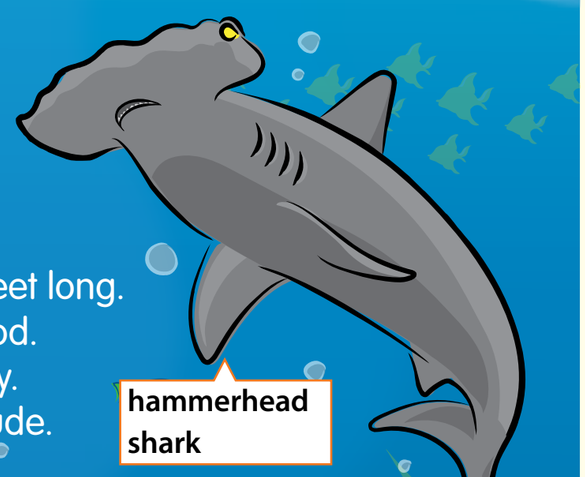
Sea Creatures and Their Features

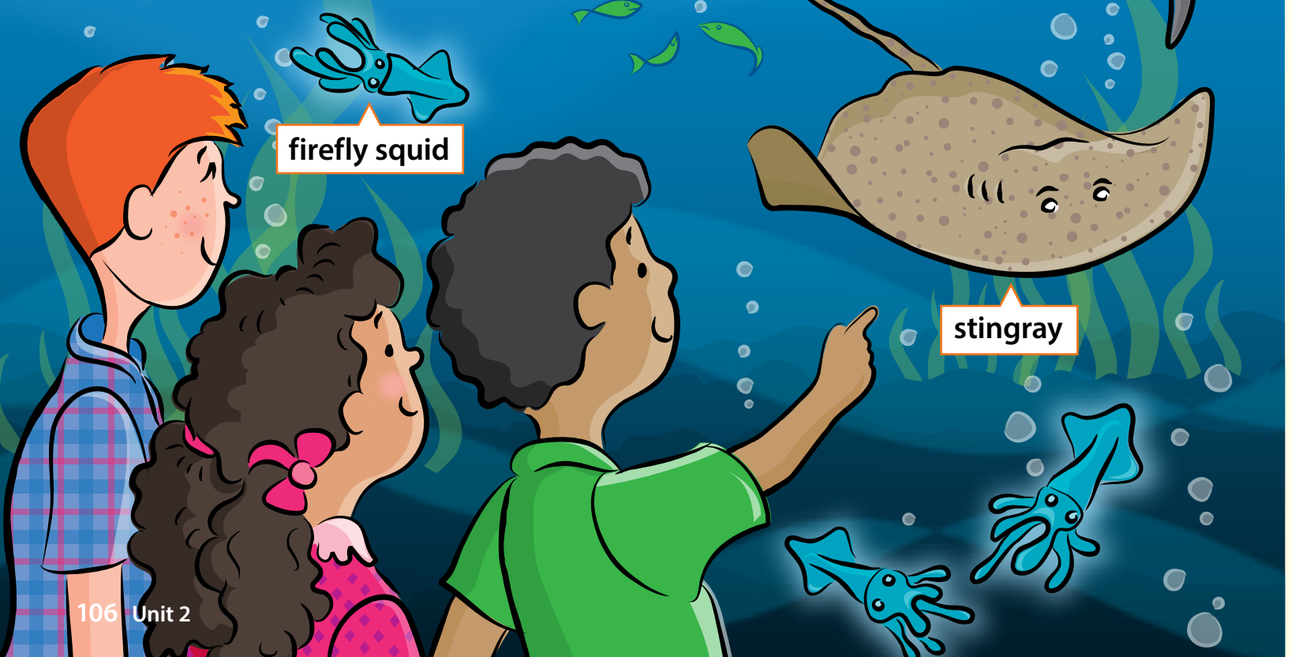
The firefly squid is tiny but bright.
Its tentacles light up the sea.
It **uses** blue light to catch its prey,
But it just looks pretty to me!

A hammerhead shark is twenty feet long.
It has teeth in its mouth to tear food.
It eats lots of prey, like shy stingray.
That hammerhead's one scary dude.

Words to Know
- in
- the
- use

Chant





Science Vocabulary

Key Words

Look at the photos.

food

water

shelter to stay safe

What do animals need?

to catch **prey**

to hide from **predators**

features that help them adapt to their habitat

Talk Together

Look at the picture of the giraffe. What features does a giraffe use to survive?

Compare

A group is made up of things that are alike. You can use groups to **compare** things, or tell how they go together.

Comparison Chart

Features	Creatures
has tentacles	
has sharp teeth	
has fins	

Write ways to group animals here.

Put like things together.

Talk Together

Choose picture cards of these and other animals. Find ways that animals are alike. Group them in a comparison chart.

More Key Words

attack
verb

Some animals **attack** other animals to say, "Go away!"

attract
verb

The light from a bulb will **attract** moths to it.

message
noun

You can send a **message** for a friend to read.

recognize
verb

It's easy to **recognize** people that you know.

seem
verb

The game **seems** hard, but it is really easy to play.

Talk Together

Make a Vocabulary Example Chart for each **Key Word**. Then compare your chart with a partner's.

Word	Definition	Example
message	words sent to someone else	e-mail

PART 2 **Reading Strategy**

Learn to Make Inferences

Look at the two photos. Read the text. Then think of what you know about animal adaptations. Put your ideas together to figure something out, or **make an inference**.

When it is in danger, the puffer fish gets big.

You can **make inferences** about things you read.

How to Make Inferences

1. Look for details in the text.
2. Think about what you already know.
3. Put your ideas together. What else can you figure out?

I read _____.

I know _____.

And so _____.

Talk Together

Read Maryam's oral report. Read the sample inference. Then use **Language Frames** to tell a partner about your inferences.

Language Frames

- I read _____.
- I know _____.
- And so _____.

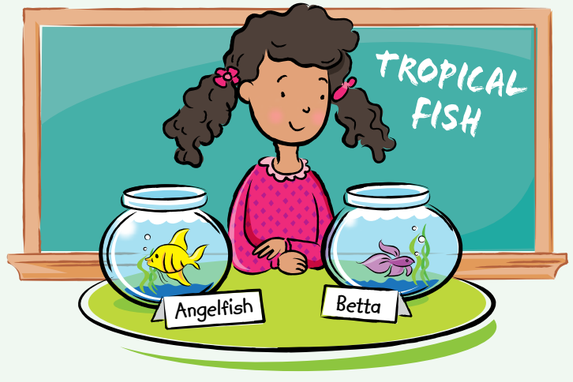
Oral Report

Tropical Fish

Many people choose tropical fish as pets. Before buying any fish, you need to find out which fish make the best pets.

Betta fish are a popular choice. They **seem** pretty and cheerful. But male bettas are not cheerful at all! They **attack** all other fish. Bettas send out a clear **message**: "We need space!"

Pet owners are also **attracted** to angelfish. You may **recognize** them because of their long stripes. These shy fish are not like bettas. Wild angelfish use their stripes to hide in long plants. Big fish cannot catch them. It is a special **feature** that helps the little fish survive.



Sample Inference

"I read that betta fish attack other fish.

I know that people usually keep fish together in aquariums.

And so I know that pet owners should not put betta fish with other fish."

◀ = A good place to make an inference

PART 2 **Phonics Focus**

Trigraphs: *thr, shr, squ*

thr**ow**

shr**ub**

squ**id**

Listen and Learn

Listen for the sound of the trigraphs at the beginning of the picture words. Choose the word with the same trigraph that best finishes the sentence.

1. We planted _____ in our garden.

snack squash skate

2. There are _____ balls.

three truck trust

3. We had _____ for dinner.

slice ship shrimp

4. I have a spool of _____.

thread this trunk

Talk Together

Listen and read. Find the words with the trigraphs.

Over to You

An Interesting Ocean Animal

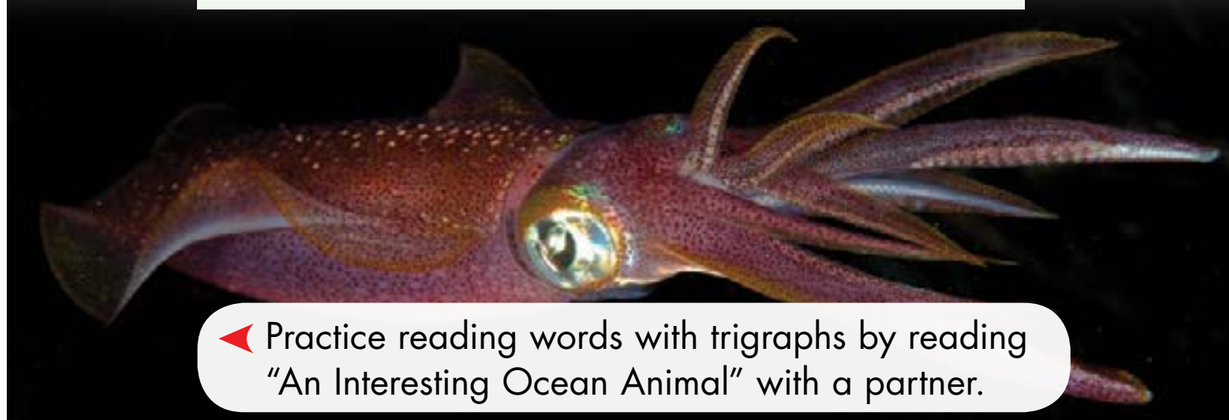
Squid are in the same family as snails. Their features include a squishy body, eight arms, and two long tentacles. They use their tentacles to catch prey. Squid throw their tentacles out to catch their food. Then they use their arms to pull the food into their mouths. They eat fish, other squid, and shrimp. Giant squid can be more than 12 meters long.

Giant squid live deep in the ocean. It's very dark there. They have eyes the size of large dinner plates. This helps them see in the deep, dark water.

Squid can defend themselves against predators. The squid squirts a dark liquid, like ink. This makes them hard to see. Then they can slip away. They can also push water out of their bodies. This moves them backward away from the predator.

Work with a partner.

Take turns. Say a word with *thr, shr,* or *squ*. Your partner points to the word.



Practice reading words with trigraphs by reading "An Interesting Ocean Animal" with a partner.

Read a Science Article

Genre

A **science article** gives information. This one tells how some living things survive.

Text Features

Look for **headings**. They tell what the parts of the article are about.

heading

Lights That Help Mushrooms

Mushrooms have spores. A spore is like a seed. The mushrooms spit their spores into the air. The wind carries the spores to new places where they grow into new mushrooms.

NATIONAL GEOGRAPHIC EXCLUSIVE

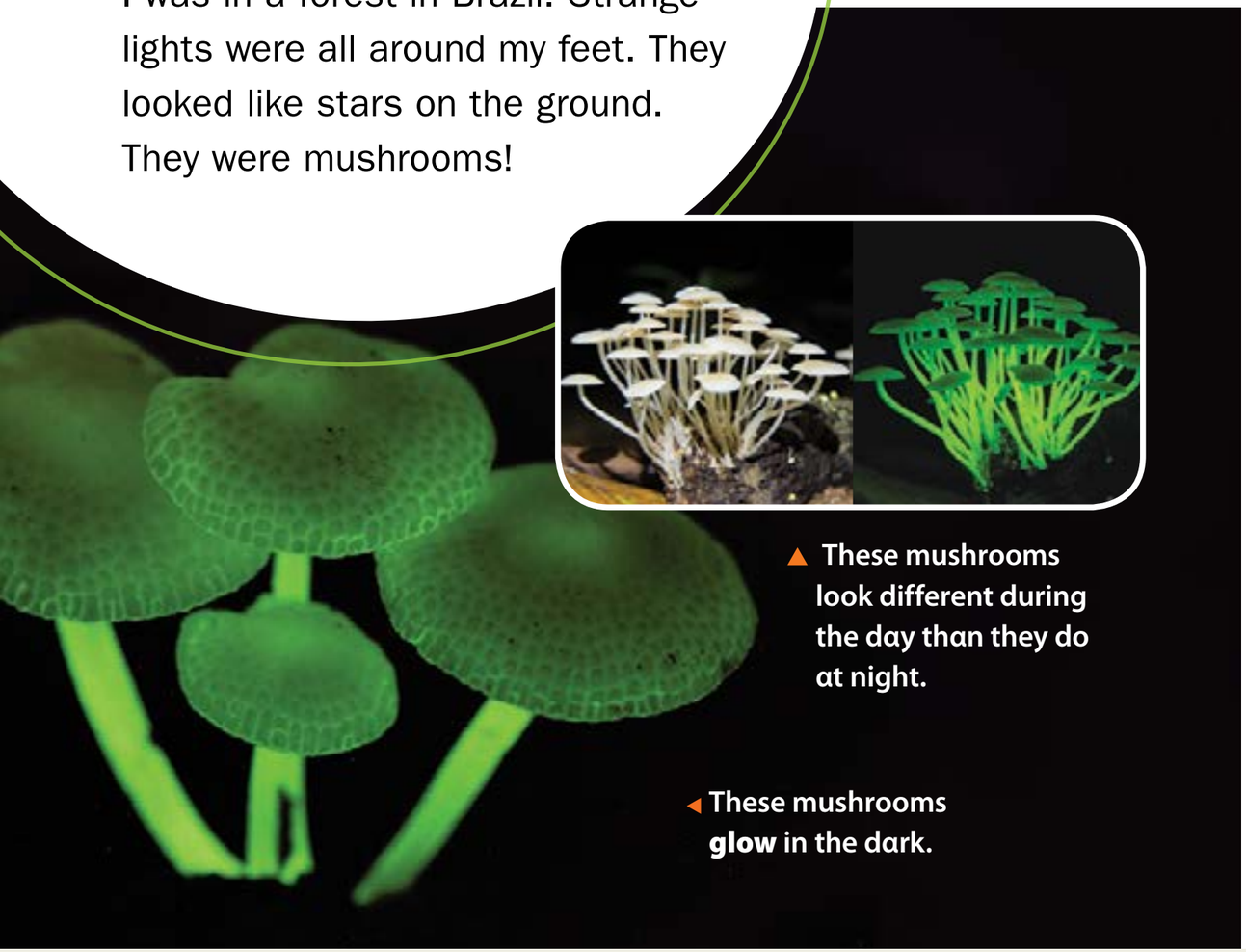
Living Lights

by **Dr. Dennis Desjardin**
Professor of Biology, San Francisco State University

Set a Purpose
Find out how some living things use light to survive.

Lights at My Feet

I was in a forest in Brazil. Strange lights were all around my feet. They looked like stars on the ground. They were mushrooms!



▲ These mushrooms look different during the day than they do at night.

◀ These mushrooms **glow** in the dark.

glow shine

The mushrooms were bioluminescent.
They could make light.

I am a **scientist**. I study mushrooms. I wanted to learn more about them and other living lights. Turn the pages to see what I learned.

▲ Here I am studying mushrooms.

◀ Bioluminescent mushrooms

scientist person who learns about plants and animals

Before You Continue

1. **Use Text Features** Point to the heading. What does it tell you?
2. **Make Inferences** What do you think Dr. Desjardin wants to learn about this kind of mushroom?

Lights That Help Mushrooms

Mushrooms have spores. A spore is like **a seed**. The mushrooms spit their spores into the air. The wind carries the spores to new places where they grow into new mushrooms.

Sometimes insects carry spores to new places. Light **attracts** insects. When they land on the glowing mushrooms, some spores might stick to them. When the insects leave, so do the spores!

This mushroom grows on the sides of trees. It is from Australia.

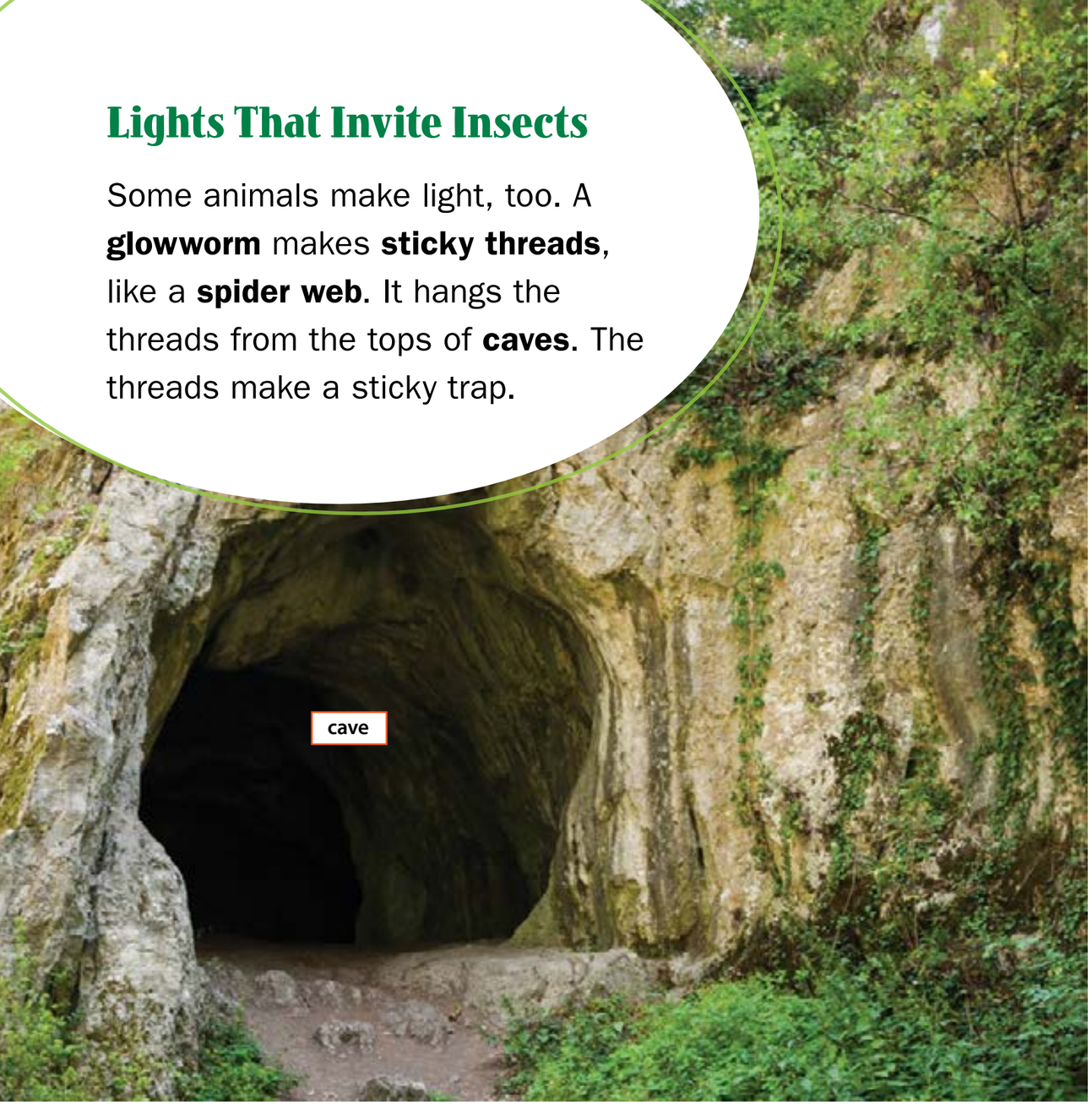
a seed the part of a plant that makes a new plant

Before You Continue

1. **Identify Details** Why do some insects like bioluminescent mushrooms?
2. **Make Inferences** What would happen to the mushrooms without the wind or insects?

Lights That Invite Insects

Some animals make light, too. A **glowworm** makes **sticky threads**, like a **spider web**. It hangs the threads from the tops of **caves**. The threads make a sticky trap.



▲ A dark cave is a good place for a glowworm's trap.

◀ **glowworm** a kind of insect that makes light
sticky threads thin strings that hold on to things
spider web trap a spider makes
caves large holes in or above the ground

Then the glowworm shines its light. Other insects fly to the light and get stuck in the threads. Then the glowworm eats the insects.

▲ Look closer at the glowworms' light!

▲ Glowworms light up this cave. They look like stars.

Before You Continue

1. **Topic** What is the main topic, or idea, of pages 120–121?
2. **Compare** How are glowworms and bioluminescent mushrooms alike?

Lights That Send Messages

One kind of beetle called a firefly uses light to talk to other fireflies. The light in its tail blinks on and off.

Sometimes a firefly flashes its light to warn of danger. But most of the time, fireflies are just trying to find each other.

A **male** firefly **flashes** a light. A **female** firefly flashes back to answer. They keep flashing until they find each other.

▲ A firefly uses its light to send a **message** to other fireflies.

▲ Flashing lights help fireflies find other fireflies.

male boy
flashes shines
female girl

Before You Continue

1. **Details** How do fireflies send **messages** to each other?
2. **Compare** How is a glowworm like a firefly? How is it different?

Lights in the Sea

Many living lights live in the deep sea. An anglerfish has a **rod** on its head. The end of the rod glows. It attracts small fish. When a fish swims to the light—SNAP! The anglerfish eats it.

▲ This anglerfish uses its light to catch fish.

Ocean **predators** often look up to the **surface**. They know a dark shape may be **food**.

▲ This shark looks for dark shapes in the water.

rod long, thin body part

surface top of the **water**

Before You Continue

1. **Use Text Features** Look at the heading. What is this part of the article about?
2. **Predict** How might light help some ocean animals hide from **predators**?

Lights That Hide Animals

The anglerfish's light **attracts prey**. Other ocean animals use light to **escape** or hide from **predators**.

Bioluminescent animals are hard to see in the bright **water**. So the predator **moves on**.

This comb jelly makes light to scare predators. ▶

▲ Some jellyfish are hard to see in bright water.

Many animals are bioluminescent. To me, **that's exciting**.

There are many questions left to answer. Trying to find the answers will be a **great adventure**. ❖

▲ Some squids are bioluminescent.

▲ Pinecone fish can also make light.

escape get away
moves on leaves

that's exciting that is very interesting
great adventure very fun thing to do

Before You Continue

1. **Explain** How does light help ocean animals escape from some **predators**?
2. **Details** Name three ways some animals use light to survive in their environments.

PART 2 **Think and Respond**

Talk About It

1. What did you learn from the **science article**? Give an example.

   I learned ____ .

2. **Explain** how the anglerfish **attracts** its **prey**.

   The anglerfish ____ .

3. Why do some living things use light to attract insects? Give two reasons from the article.

   Some living things want insects for____ . Others ____ .

Write About It

Animals use light in many different ways. Think of an animal that uses light. What does the animal use light to do? Write a sentence.

____ use light to ____ .

Reread and Summarize

Compare

How do different animals use light in "Living Lights"?

Comparison Chart

How It Uses Light	Animal
to attract prey	glowworm anglerfish
to send messages	

Now use your comparison chart. Tell a partner about the animals in "Living Lights."

Some animals use light to ____ .
These animals include: ____ .

Fluency

Practice reading with the correct phrasing. Rate your reading.

PART 2 **Word Work**

Use Context Clues

When you read a new word, look at all the words around it. These **context clues** can help you figure out the meaning of the new word.

A bright light can attract bugs at night.
The bugs want to go near the light.

context clues

The words "want to go near" give clues about what **attract** means.

Try It Together

Read these sentences. Look for context clues that tell what the word **prey** means.

Small fish can be **prey** for large fish. The large fish try to hunt and eat them.

Making Connections Find out ways living things stand out to survive.

Genre **Poems** often use words to create pictures in your mind. Some poems use rhythm, words that repeat, or words that rhyme, or have the same ending sound.

Clever Creatures

written and illustrated by **Douglas Florian**

The Firefly

On August nights
The firefly lights
Blink
ON and OFF
Amongst the trees
But have no need
For **batteries.**

Fireflies use light to send **messages**, such as "Come here!" or "Look out!"

Clever Creatures Smart Animals
Amongst Around
batteries things that store electricity

Before You Continue

1. **Details** How do fireflies send **messages**?
2. **Poetry** Point to and say two words in the poem that rhyme. What picture do you see in your mind?

The Io Moth

The Io moth
Has **mammoth** eyes
That are not real—
They're a disguise
To **ward off** birds
And other creatures,
Like garter snakes
And science teachers.

▲ The Io moth's wings look like eyes. These markings scare away **predators**.

mammoth very large
They're a disguise They are markings that help the moth look like something else
ward off scare away

The Diamondback Rattlesnake

Fork in front
Rattle behind.
The lump in the middle?
Don't pay any mind.

Scales up high,
Scales down low.
The lump in the middle?
You don't want to know.

Diamonds above,
Diamonds below.
The lump in the middle?
A rabbit too slow. ❖

The sound of the snake's rattle tells other animals to stay away. ▼

Don't pay any mind. Do not think about it.
Scales Hard skin

Before You Continue

1. **Make Inferences** Why do the Io moth's markings scare **predators** away?
2. **Clarify** What part of the snake is the "fork in front?"

Compare Genres

How are "Living Lights" and "Clever Creatures" different? How are they the same?

Comparison Chart

Text Features	"Living Lights"	"Clever Creatures"
is about animals	✔	✔
includes words that rhyme		✔
has facts		
has photographs		
has illustrations		

Both selections have this feature.

Only one selection has this feature.

Talk Together

What does it take to survive? Talk with a partner. Ask your partner to name an animal or insect. Then use **Key Words** to tell your partner about **features** it uses to survive.

Verbs *be* and *have*

Forms of the verbs ***be*** and ***have*** can be used as helping verbs and as main verbs.

Grammar Rules **Forms of *be* and *have***

	be	*have*
• For yourself, use	am	have
• When you talk to one or more people, use	are	have
• For one other person or thing, use	is	has
• For yourself and others, use	are	have
• For other people and things, use	are	have

You can write a subject and a form of *be* or *have* in a short way. I am = I'm she is = she's is not = isn't

Read Forms of *be* and *have*

Read these sentences. Find forms of *be* and *have*.

Mushrooms have spores. A spore is like a seed.
Many animals are bioluminescent. Others aren't.

Write Forms of *be* and *have*

Write two sentences about a plant or animal that makes light. Use forms of *be* and *have*.

Writing Project

Write Like a Scientist

Write an Article

Write an article that compares how two animals survive. Add your article to a class science magazine.

Study a Model

An article gives facts about a topic. Read Kate's article about what porcupines and sea urchins do to survive.

Bristly Beasts

by Kate Petrie

Do you know that some animals use spikes to protect themselves? Both porcupines and sea urchins use spikes to protect themselves.

The porcupine has sharp quills on its tail. When a hungry coyote comes by, the porcupine turns and slaps it in the face with its tail. The quills stick. The coyote leaves in a hurry!

In the oceans, sea urchins also use spikes. The spikes cover their bodies. When anything touches the urchin, it moves its spikes in that direction. Even hungry animals back off!

The topic sentence tells the main idea of the article.

The article compares two animals. The text gives facts and details for each animal.

Prewrite

1. **Choose a Topic** Talk with a partner. Think of interesting animals to write about. Choose two animals that fit into a group because of how they protect themselves.

My favorite animal is _____.

_____ sounds interesting. Tell me why you like it.

2. **Get Organized** Porcupines and sea urchins fit into a group. They are both animals with spikes. Use a comparison chart to show how your animals fit into a group.

Comparison Chart

Animals with Spikes	Porcupines and Sea Urchins
How they use spikes	• move spikes toward other animals • scare away the animals
What the spikes are like	• sharp • can stick in other animals

Draft

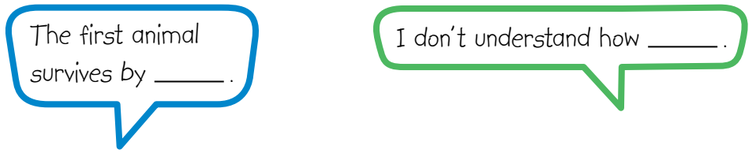
Use your comparison chart to write a draft.

- Write a topic sentence that tells your main idea.
- Turn your details into sentences that explain how each animal protects itself.

Writing Project, continued

Revise

1. **Read, Retell, Respond** Read your draft aloud to a partner. Your partner retells what you wrote about. Next, talk about ways to make your writing better.



2. **Make Changes** Think about your partner's ideas. Use revision marks to make your changes.
   - Make sure your topic sentence clearly tells your main idea.

Did you know that some animals use spikes to protect themselves?
~~Animals have to protect themselves.~~

   - Add plenty of facts and details to develop the main idea.

hungry turns and with its tail
When a coyote comes by, the porcupine slaps it in the face.

Edit and Proofread

Work with a partner to edit and proofread your article. Pay special attention to action and helping verbs.

Spelling Tip

Use an apostrophe for contractions with *not*, such as *didn't, haven't,* and *weren't.*

did + not = didn't

Present

On Your Own Make a final copy of your article. Read it to a friend.

Presentation Tips

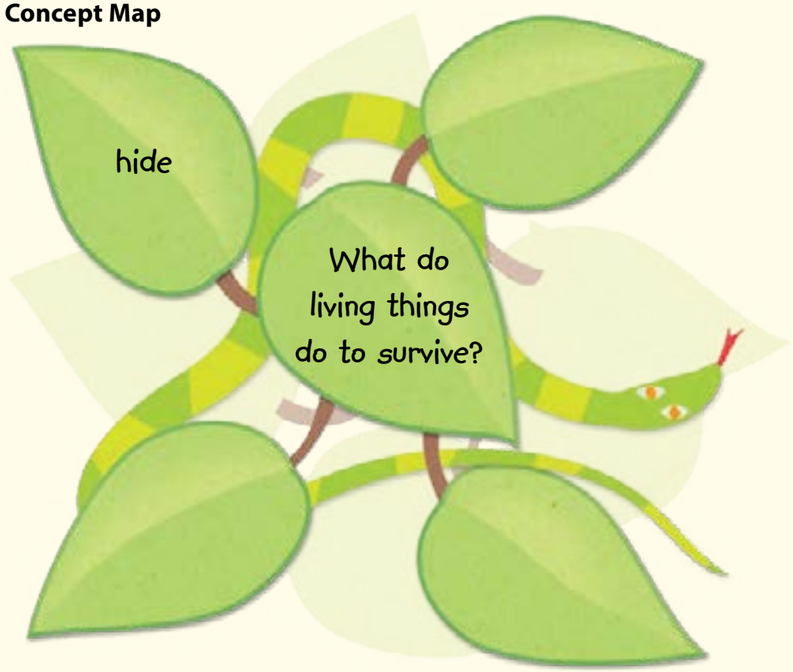
If you are the speaker...	If you are the listener...
Pronounce all important words clearly.	Take notes about what you hear.
Pause after each important detail.	Compare what you hear to what you already know.

With a Group Make a science magazine that has all of your articles. Include a picture of each animal. Use a computer to design a cover for your magazine.

Talk Together

In this unit, you found lots of answers to the **Big Question**. Now, use your concept map to discuss the **Big Question** with the class.

Concept Map



Share Your Ideas

Choose one of these ways to share your ideas about the **Big Question**.

Do It!

Play Animal Concentration

Write ways animals survive on one set of cards. Write the names of different animals and insects on another set of cards. Mix the cards and turn them over. Match the animals to the ways they survive.

Talk About It!

Make a Riddle

Choose an animal from one of the selections. Tell your partner a riddle about it. See if your partner can guess the animal.

I am bright and hang in caves. What am I?

A glowworm!

Write It!

Write a Scientific Log

Pretend you are a scientist. You are studying an animal from one of the selections. Draw the animal. Describe what it does to survive.

October 12

Today, I studied the amazing Io moth.

Do It!

Make a Nature Show

Pretend to make a TV show. It is about amazing animals and how they survive. Choose the animals. Then plan the show and work with classmates to present it.