

Expository
Text

Life in a Tide Pool

by Mary Mackie



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PAIRED
READ

Bluebird and Coyote

STRATEGIES & SKILLS

Comprehension

Strategy: Reread

Skill: Compare and Contrast

Vocabulary Strategy

Sentence Clues

Vocabulary

alert, competition,
environment, excellent,
prefers, protection, related,
shelter

Content Standards

Science

Life Science

Word count: 928**

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**The total word count is based on words in the running text and headings only. Numerals and words in captions, labels, diagrams, charts, and sidebars are not included.



Education

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Essential Question

How do animals adapt to challenges in their habitat?

Life in a Tide Pool

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A Changing World

Take a walk along a rocky beach. What do you see? There are mussels and snails on the rocks. Green sea anemones wave their **tentacles** in the water. Crabs hide under rocks.

Twice a day, ocean water covers the land. Then the water rushes out again. Small pools of water are left behind. The rest of the shore is dry.

Tide pool creatures live in a world that is always changing.



George Graff/National Geographic/Getty Images

The small pools of water are called tide pools. Tide pools form in rocky areas where the land meets the sea.

A tide pool is a **habitat** for many plants and animals. A habitat is a place where a plant or animal lives. It is a plant or animal's environment.

Crabs live in tide pools on rocky coasts.



The tide pool habitat is made up of areas called zones. These zones form between the lowest low tides and the highest high tides.

The first zone is the low tide zone. It stays underwater most of the time. The next zone is the mid zone. Twice a day, this zone is dry. Then there's the high tide zone. It is flooded at high tide. The last zone is the splash zone. It is mostly dry. At high tide it is splashed with salt water.

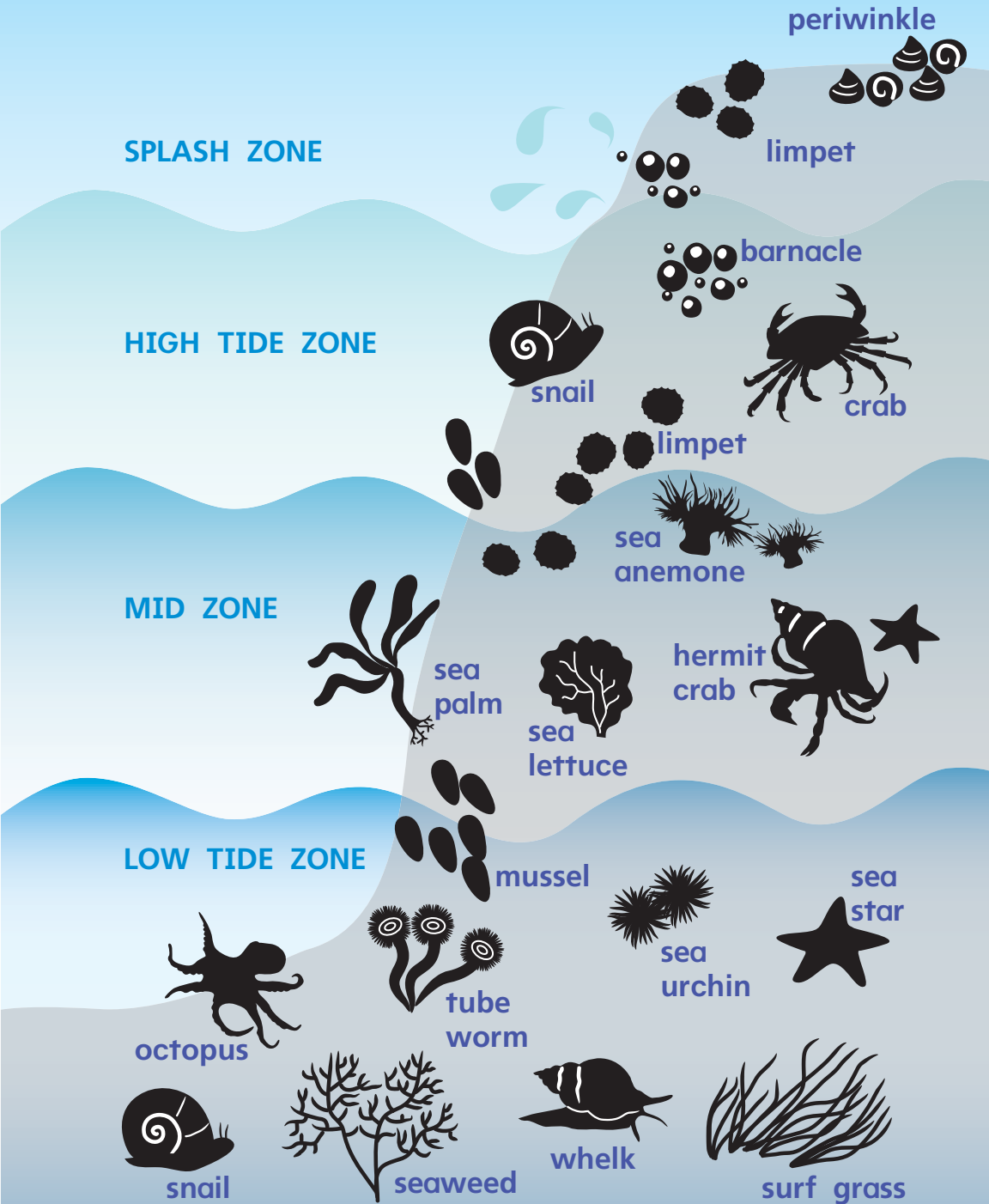
STOP AND CHECK

What does the tide do twice a day?

Tide pools change as the tide rises and falls.



Intertidal Zone Map



Tide Pool Adaptations

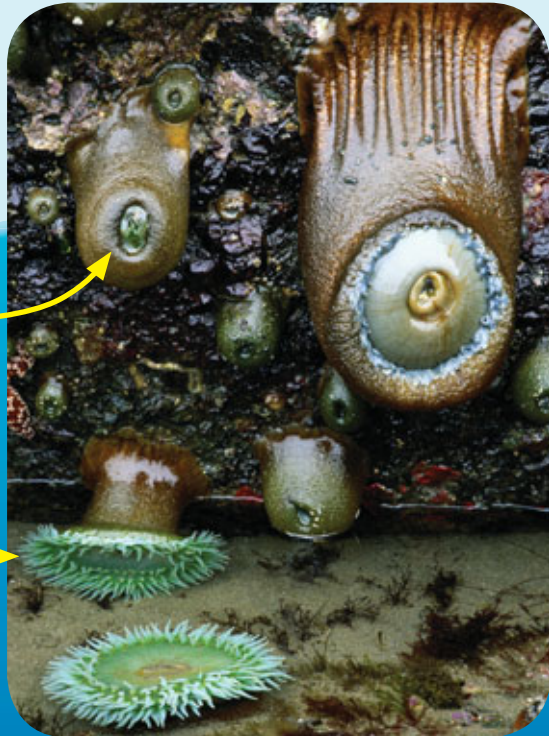
Tide pools are always changing. Animals that live in tide pools need some special features to help them survive. These features are called **adaptations**.

Sea anemones live in the mid and low tide zones. When the tide pool is full of water, the sea anemone opens its tentacles to catch fish. But when the tide pool is dry, it pulls its tentacles into its body.

Sea anemones can open and close their tentacles.

closed tentacles

open tentacles



Barnacles, limpets, and mussels live in the splash zone. The zone is mostly dry. They have shells for shelter and protection. They can store food and water in their shells. Snails, crabs, and hermit crabs also have shells.

Barnacles, limpets, and mussels have adapted to life in the splash zone. They have hard shells that protect them from the sun.





Sea hares have colors that make them hard to see.

California sea hares, or sea slugs, live in the mid and low tide zones. They have adaptations to protect themselves from the sun and waves. They shrink their soft bodies. They hide between rocks.

Sea hares hide from **predators**. Their colors make them look like tide pool rocks. If predators come close, sea hares shoot out purple ink.

Sea urchins and sea stars come from the same family. They are related. Sea urchins have many sticky tube feet. Sea stars have the same kind of feet.

Sea urchins eat only plants. They have hard teeth. They scrape plants from rocks and then eat them. Sea stars are predators. They eat other animals.

The sea star (left) and the sea urchin belong to the same family.



The things animals do can be adaptations. Many tide pool animals have adaptations to fool predators.

Some crabs hide in sand. Some crabs, such as decorator crabs, hide by covering their shells with seaweed and smaller shells.

Mussels gather in large groups to stay safe. Periwinkles, oysters, and sand-castle worms also gather together to stay safe.

Decorator crabs decorate their shells to keep from being seen.



A sand-castle worm uses its tentacles to catch prey.

Sand-castle worms live together by building one large home. Their home looks like a honeycomb. When the tide comes in and covers them, the worms use their tentacles to catch food floating in the water.



A Special Glue

Sand-castle worms have a special adaptation that helps them build their home. They make a special glue. They glue pieces of shell together. Each worm makes a tube. All of the tubes join together to make one large home.

STOP AND CHECK

How do tide pool animals use their shells?

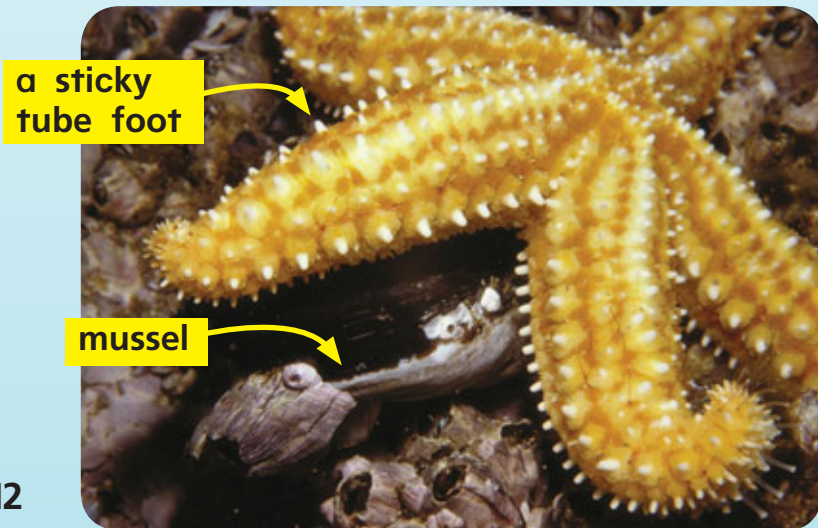
Tide Pool Predators

Many tide pool animals are predators. They eat other animals. There is a lot of competition for food.

The sea star is a predator. It has adaptations that help it catch and eat **prey**. It has suction cups on its feet. The suction cups help it to move around on rocks.

Sea stars feed on shellfish such as mussels that live on the rocks. Sea stars use their sticky feet to open the mussel shells.

Sea stars can open mussels by pulling them apart with their sticky tube feet.



The octopus is a predator. It can only live in water. It prefers life in the low tide zone. There, it feeds on crabs, snails, and clams.

An octopus has a soft body. It can hide in narrow cracks. It can also hide by changing color. The octopus hides and waits. It stays alert for small animals passing by. It grabs its prey with its long tentacles.

An octopus can hide in a tide pool by changing color.



It is good to visit tide pools. Some people study and learn from tide pools. People and their pets walk through tide pools. If you visit a tide pool, be careful. Leave the pool just as you found it.

STOP AND CHECK

What are predators?

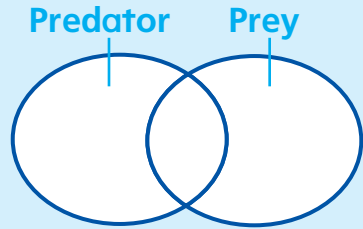
People like to visit tide pools, but they need to treat them with care.



Respond to Reading

Summarize

Use details from *Life in a Tide Pool* to summarize the selection. The graphic organizer may help you.



Text Evidence

1. How do you know that *Life in a Tide Pool* is expository text? **Genre**
2. In what ways are sea stars and sea urchins the same? **Compare and Contrast**
3. What does *survive* on page 6 mean? Rewrite the sentence but don't use *survive*. **Sentence Clues**
4. Compare the octopus with another tide pool animal. **Write About Reading**

Compare Texts

Read how the bluebird and the coyote got their colors.

Bluebird and Coyote

Bluebirds were brown, not blue. Then, one night, Bluebird had a dream.

“Bored with brown?” a voice asked. “Visit the blue lake. Bathe in the lake for five mornings and you will turn blue.”

“Is that all I have to do?” asked Bluebird, suddenly alert.

“One more thing,” said the voice. “Sing ‘Ode to Blue’ while you bathe.”

“How does it go?” asked Bluebird.

“Just make it up,” said the voice. Bluebird did as he was told. All was well.

Then, on the fourth morning, his feathers fell out.

“Can this be right?” he asked, but nobody heard him. Or so he thought.

On the fifth morning, Bluebird had beautiful blue feathers.

Coyote, who had been watching, was amazed.



“How did you do that?” asked Coyote.
“I want that color!”

“Here’s what you do,” said Bluebird.

Coyote bathed in the lake. He sang for hours. On the fourth day, his fur fell out. On the fifth day, it grew back bright blue.



“Excellent color—one I prefer!” said Coyote as he pranced along the road. He had a thought. “I wonder if my shadow looks as good as I do?”

Bang! He ran straight into a tree branch! He fell to the ground. Soon, he was covered in brown dust.

Since that day, there has never been a blue coyote. But coyotes still like to howl a few verses of “Ode to Blue.” Just in case.



Make Connections

In *Bluebird and Coyote*, Coyote turns blue. Would blue be a good color for a coyote? **Essential Question**

How does changing color help some tide pool animals? How does being brown help a coyote? **Text to Text**

Glossary

adaptations (*ad-ap-TAY-shuhnz*)
changes in animals or plants
that fit them better for their
environment (*page 6*)

habitat (*HAB-ih-tat*) the place where
a plant or animal naturally lives or
grows (*page 3*)

predators (*PRED-uh-turz*) animals that
eat other animals (*page 8*)

prey (*PRAY*) animals that are eaten
by other animals (*page 12*)

tentacles (*TEN-tuh-kuhlz*) long,
flexible animal parts used for
grasping or feeling (*page 2*)

Index

adaptations, 6, 8, 10–12
habitats, 3, 4
high tides, 4, 5
low tides, 4, 5, 8, 13
predators, 8–10, 12, 13
prey, 12, 13
tentacles, 2, 6, 11, 13

Focus on Science

Purpose To compare and contrast tide pool animals.

What to Do

Step 1 Make a list of four animals from *Life in a Tide Pool*.

.....

Step 2 Create a chart with headings like the one below.

Animal	Where They Live	Type of Adaptation

.....

Step 3 Add the animals to the chart.

.....

Step 4 Fill in the chart. Use the zone map on page 5 to help you.

Conclusion What can you learn by comparing animals this way?

Thinkmark

The Topic

What is this book mostly about?

Vocabulary

What are the key words in *Life in a Tide Pool* that relate to the topic?

Conclusions

What are the most important things you learned from *Life in a Tide Pool*?

Make Connections

Compare the life of a tide pool animal with the life of a pet such as a cat, a dog, or a fish.

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Grade 3 • Unit 4 Week 3

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