

Learning A-Z	level T	Multi-level	N/A
Grade	3	Word Count	1,197
Lexile	890L	Nonfiction • Informational	

Refer to the Focus Question on page 2 of this title to guide discussion and support additional learning connected to the text.

Seahorses provides students with a comprehensive look at these special animals including where they live, what they eat, their unique adaptations, and their life cycle. In addition, it gives information about how conservationists are working to protect these amazing creatures. The book can also be used to teach students how to determine the main idea and details of a text as well as to identify and use commas after introductory word

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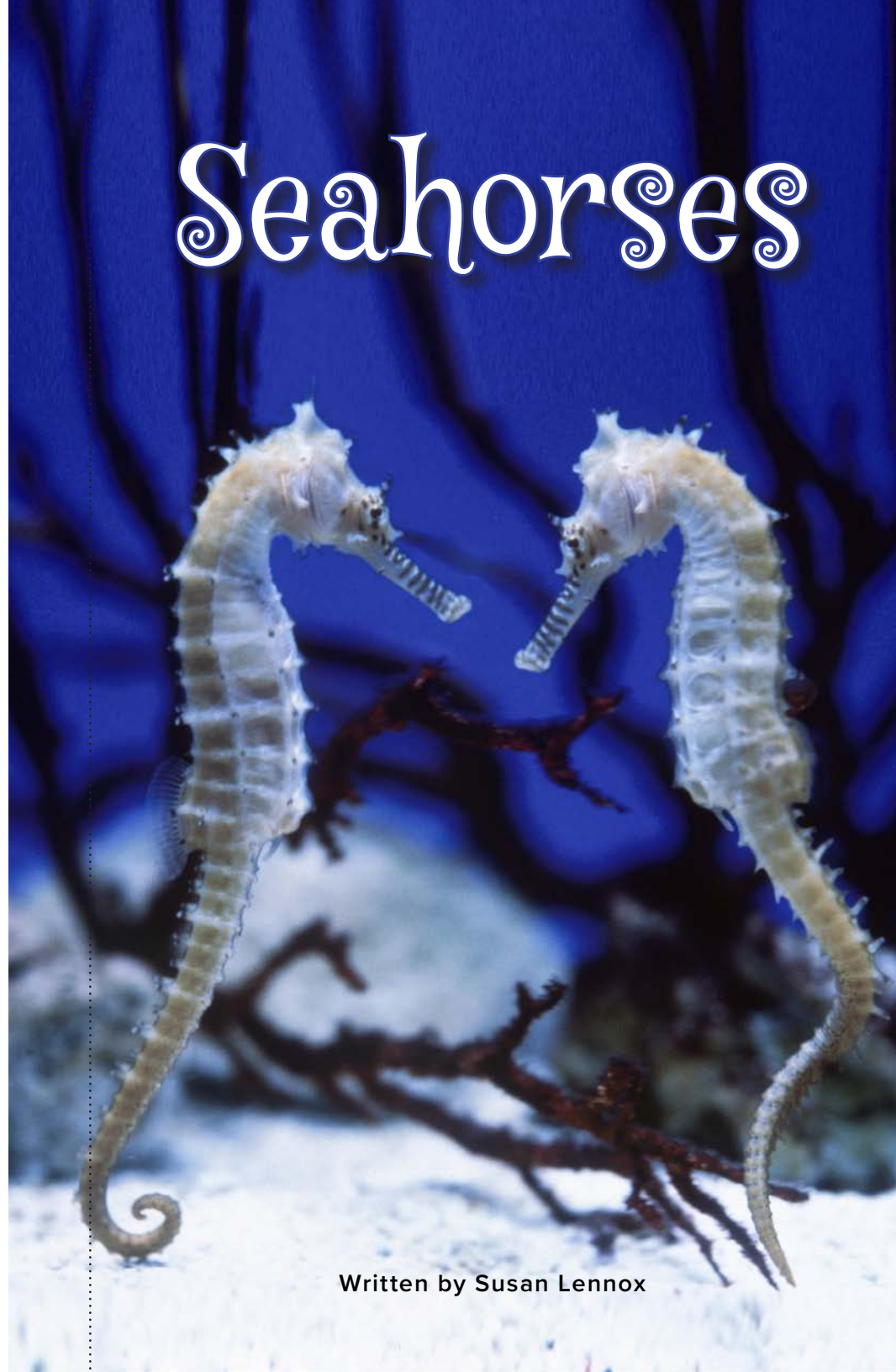
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Seahorses



Written by Susan Lennox

Seahorses



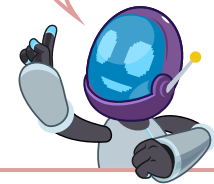
Above: A hedgehog seahorse attaches itself to coral in the Philippines.

Cover: A pair of seahorses prepare for their mating ritual.

Written by Susan Lennox

Focus Question

What are seahorses?



Words to Know

adapted	habitat
camouflage	kelp
conservationists	marine
currents	prehensile
delicate	

Connections

Writing

Write a persuasive essay encouraging people to protect seahorses and their habitat.

Science and Art

Research to learn more about one of the seahorses in the book. Design a bookmark that lists facts about the seahorse and is decorated with an illustration of the seahorse.



A pair of pygmy seahorses in Indonesia blend in with their surroundings.

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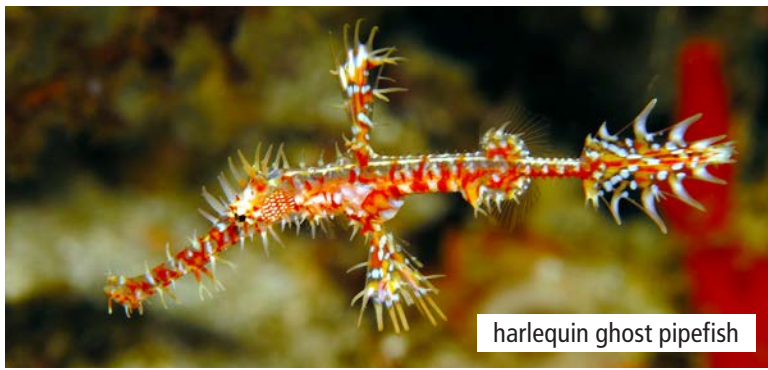
A pair of seahorses stay together for life.

Strange Creatures

A strange **marine** creature hides in beds of seagrass. It's a fish that dances yet can barely swim. It's an animal that can look ahead and behind at the same time. It's the seahorse, a **delicate** and unique ocean marvel.

Word Wise

The scientific name for seahorses is hippocampus. That name comes from two ancient Greek words: hippos, meaning "horse," and kampos, meaning "sea monster."



harlequin ghost pipefish



Honshu pipefish

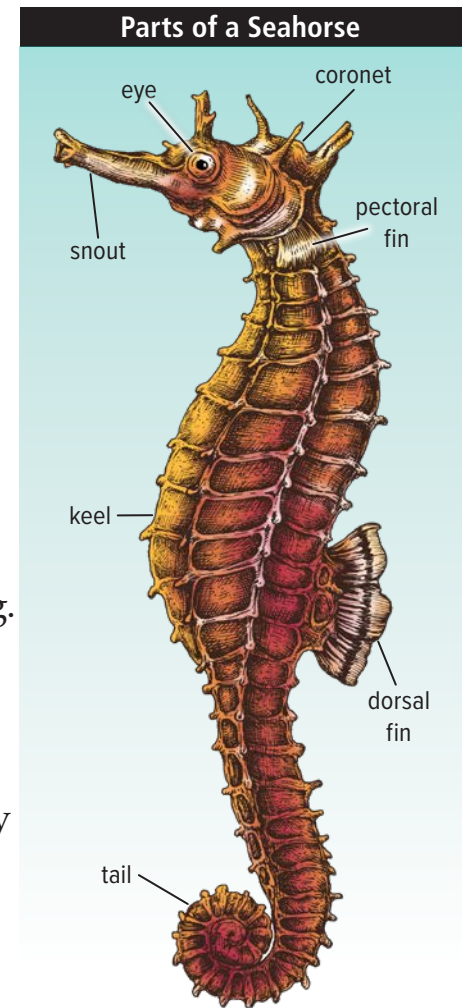
Funny Kind of Fish

Seahorses are closely related to pipefish—skinny fish with long snouts—and have some of the same features. They both have small fins and eyes that move separately. Neither one has teeth.

In other ways, though, these fishy cousins are quite different. Pipefish look like skinny tubes. They're longer than they are tall. Pipefish hold themselves horizontally, as most fish do. Seahorses are just the opposite. They hold themselves upright as they move through the water.

Another big difference is in the body parts that give seahorses their name. Seahorses have bumps called *spines* that run along the top and back of their head like a horse's mane. Their snout looks like the muzzle and nose of a horse. They also have a long tail.

All of the more than forty types of seahorses have this body structure, but their size varies. The tiny pygmy seahorse measures about 2 centimeters (just under 1 in.) The Pacific seahorse can grow up to 31 centimeters (1 ft.) long. Seahorses also come in different colors, ranging from purple to gold to white. They often change color as well.





Seahorses live in warm waters in most parts of the world.

Where Seahorses Live

Seahorses live in warm waters along coastlines around the world. They nest in **kelp** forests and beds of eelgrass in places that have steady **currents**. These weedy areas are full of tiny plankton and shrimp larvae, foods seahorses like to eat. The moving waters bring them food, which is important since they can't swim great distances to hunt.

Seahorses sometimes move to deeper water during storms to avoid rough waves. Usually, though, they stay within a set area. A female's territory may be up to 100 square meters (1,076 sq. ft.). A male's range is only a fraction of that size.



A Denise's pygmy seahorse, one of the smallest kinds of seahorses, is found in Indonesia.

Unique Adaptations

A seahorse has an unusual body for a fish. It has an exoskeleton—a hard, armor-like covering with skin on top of it. Its exoskeleton helps the seahorse defend against predators and protects its internal organs from harm. Attached to its back is a small dorsal fin that flutters as fast as a hummingbird's wings.

That fluttering fin is not strong enough to move seahorses away from hungry crabs or sea rays quickly. Seahorses are not fast swimmers. In fact, the tiny pygmy seahorse is one of the slowest-moving fish on Earth, with a top speed of only 1.5 meters (5 ft.) per hour. For the most part, seahorses are drifters, letting ocean currents carry them along.

Having a **prehensile** tail comes in handy for these seaweed dwellers. Seahorses can wrap their prehensile tail around something and grip it as a hand can. Seahorses use their tail to hold themselves in place. Hanging on to seagrass keeps seahorses from being swept away by swift currents.

Camouflage is an important part of seahorse defense. Seahorses have **adapted** to survive by using color to blend in with their surroundings. Seahorse skin has special groups of cells called *chromatophores*. The cells change color according to signals from the body. Two cousins of seahorses—leafy and weedy seadragons—have growths that look like leaves. These growths make them especially hard to see in a kelp forest!



The leafy sea dragon, from Australia, is a master of camouflage!



Seahorses have good vision and can see objects as far as 4.6 meters (15 ft.) away.

Looking for prey is easy thanks to a seahorse's unusual eyes. Its eyes work independently and can look in two different



Eating Like a Horse!

Seahorses can take in only the smallest bits of food, so they must eat often—up to fifty times a day!

directions at once. When a seahorse spots prey, it points its snout toward its target and uses it like a straw to suck in food. A seahorse can eat only what will fit through its thin snout since it has no teeth and can't chew.



A pair of tiger-tail seahorses mate.

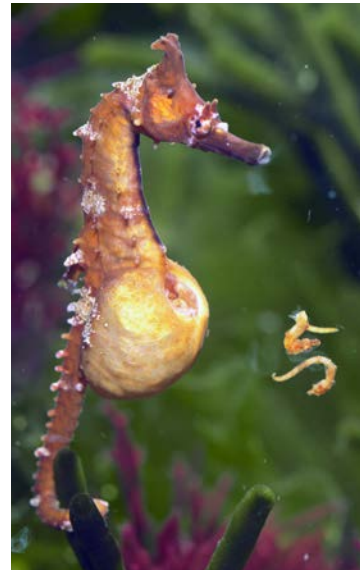
Dad Moms

Seahorses are unique not just in how they look but also in how they reproduce. Males and females take roles that are quite different from those of other animal species. It's the male seahorses, or stallions, that give birth! Seahorses and pipefish are the only animals that do this.

First, a seahorse couple pairs off and dances together for several days. In this mating dance, they circle each other or swim side by side, changing colors to communicate. They may grasp each other with their tails. Some seahorse pairs bond for life.

A stallion has a pouch, not unlike a kangaroo's. When the time is right, the female places as many as 1,500 eggs into the pouch. The stallion fertilizes the eggs and holds them in his pouch for about forty-five days. During that time, the female checks on him to make sure all is well.

A male with a pouchful of eggs guards his territory. He puffs himself up to look as large as he can to scare off predators. Over time, the eggs develop into baby seahorses called *fry*, which look just like their parents. When the fry are ready, the stallion squeezes them out of



A male seahorse gives birth.

his pouch into the water. Then they swim off on their own. Depending on the species, seahorses can give birth to more than a thousand babies at a time. However, only about one in twenty will survive to become adults. Those that do may live up to about five years.

Surviving Against All Odds

Only a small number of fry grow into adults. That number may not be enough to sustain seahorse populations, however. Adult seahorses are in danger, not just from natural predators but also from humans.

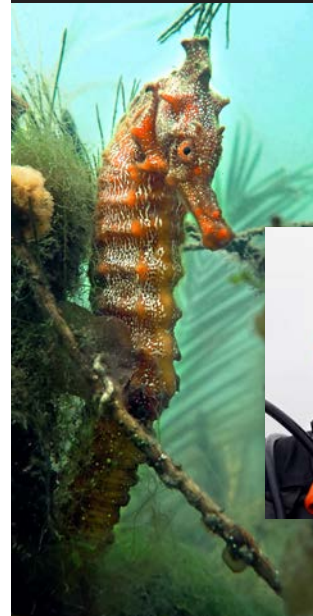
Boats, especially those used for commercial fishing, present a real threat to seahorses. These boats may drag nets or anchors across the ocean floor, which uproots sea plants important to seahorse survival. The anchors may also destroy seahorse **habitat**, reducing their numbers. Since seahorses are not distance swimmers and have limited ranges, they are less likely to seek out new habitats once their home is destroyed.

Another threat comes from people who hunt seahorses. People haul them in using nets. Seahorses are in great demand for several reasons. They are used for traditional medicine, and they're also collected and sold as ornaments. People bring them ashore and place them in the hot sun to dry out. Their bodies are sold to companies that use them as decorations.

Live seahorses are also sold as pets. Their unusual appearance makes them a popular addition to aquariums. Seahorses do not last long living in home fish tanks. Most die within weeks because of stress or disease.

Conservationists have found that the best way to help seahorses is to educate people about them. Not only are they beautiful creatures, but they are also important to ocean ecology. Their feeding habits help to keep a healthy balance of sea life around coral reefs and grass beds.

A Seahorse City



A retired schoolteacher named Roger Hanson was a regular diver off the California coast. He wanted to study and protect the seahorses he saw on his dives. He created a "seahorse city" on the ocean floor with pine branches and palm leaves. He built this safe environment far from the beach to give seahorses a place to live without the risk of being trampled.

Daphne, a Pacific seahorse that lives in Roger Hanson's habitat (main); Roger Hanson (inset)





Look but don't touch! A scuba diver respectfully observes a long-snouted seahorse near Singer Island, Florida.

Conclusion

Seahorses are amazing ocean dwellers. They are shy creatures that hide among the weeds and try to stay out of sight. If you are lucky enough to spot a seahorse in the wild, move slowly. Do not disturb it. Take a quiet moment to admire and appreciate its unique beauty, then go on your way.

These beautiful creatures are a delight to see in oceans all over the world. Their gentle nature and unusual characteristics make seahorses among nature's most unusual treasures.

Glossary

adapted (*v.*) page 9

changed to fit a new environment

camouflage (*n.*) page 9

the colors, patterns, or shapes of an animal's body that allow it to blend into the background or hide

conservationists (*n.*) page 14

people who work to protect the environment

currents (*n.*) page 7

air or water that flows in a certain direction

delicate (*adj.*) page 4

easily broken or hurt

habitat (*n.*) page 13

the natural environment of a plant or animal

kelp (*n.*) page 7

a large brown seaweed that grows in the ocean

marine (*adj.*) page 4

of or relating to the sea

prehensile (*adj.*) page 9

able to grab or hold onto something by wrapping around it