

Who Wants a Spiny Snack?

Not many animals! Find out how the pufferfish stays safe in the ocean.

This StepRead is based on an article provided by the American Museum of Natural History.

A shark swims through the ocean water. It is searching for food. Then, it sees a small brown fish swimming in the water ahead. But as the shark swims closer to the fish, something surprising happens. PUFF-PUFF-PUFF! The fish puffs out into a round, spiky ball. The shark is surprised, so it swims away. The fish is safe for now.



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That fish is called a pufferfish. When a pufferfish is swimming, it looks like a normal fish. But when another animal threatens the pufferfish, the fish reacts to the danger by puffing up suddenly like a balloon. For this reason, some people call the pufferfish a balloon fish. But when this fish is puffed out, it is not soft like a balloon. Instead, its skin becomes stiff. Sharp pointy spikes stick out of its skin in all directions. These spikes are called spines. Most of the time, the spines lie flat against the fish's skin. But when the fish puffs up, its outer skin stretches. This makes the spines stick out.

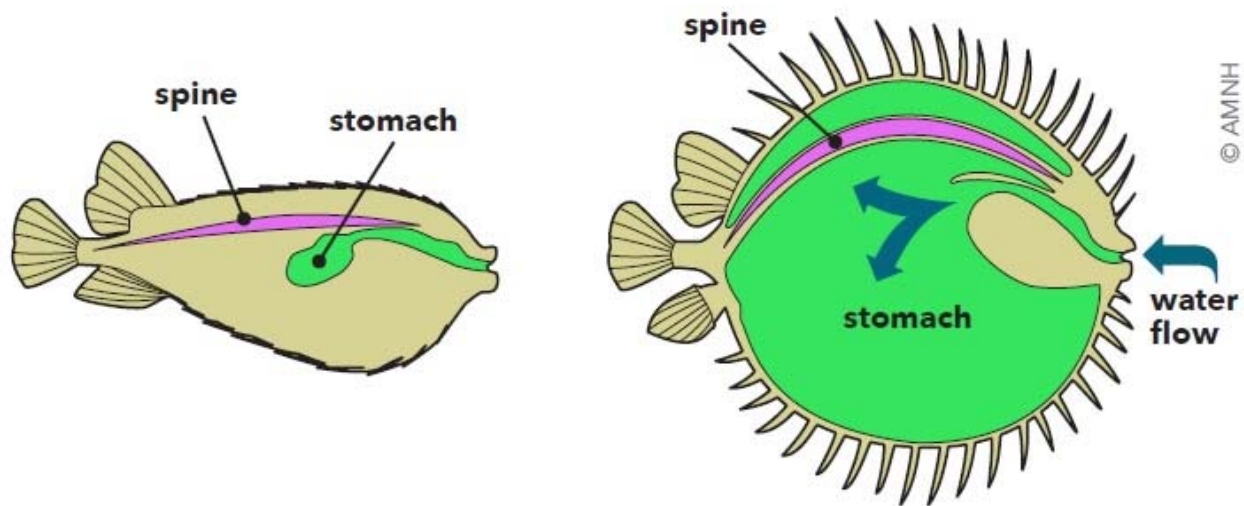


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Pufferfish have hard skin with sharp spines.

How does the pufferfish puff up?

The pufferfish puffs up by filling its stomach with water. The fish takes in a huge amount of water through its mouth. That water goes into its stomach. The pufferfish's stomach has many tiny folds in it. As water rushes into it, the fish's stomach unfolds. This allows it to get much bigger. When the stomach is filled with water, it is almost one hundred times larger than usual. To make room for the growing stomach, other body parts inside the fish are pushed to the side.



Why does the pufferfish puff up?

The ocean is full of dangerous predators that eat small fish. Predators are animals that hunt and eat other animals. But pufferfish have ways to protect themselves from predators like sharks and other big fish. Sharp spines and puffing up help pufferfish stay safe.

A pufferfish's spines and its ability to puff up are both adaptations. An adaptation is a body part or behavior that helps an animal live in its environment. All animals have adaptations that help them stay alive. For example, predators have adaptations that help them hunt. A shark's powerful tailfin and sharp teeth are both adaptations. They help the shark to hunt and eat food.



Other animals have adaptations that protect them from predators. Some animals may be fast. This helps them get away from predators. Other animals have special patterns or colors. These may help the animals hide in their environment.



Can you find the fish?



Porcupines have long sharp spines that keep them safe.

Other animals stay safe because their bodies are hard to eat. For example, think about a porcupine's sharp spines. Few predators are large or tough enough to try and eat this spiky animal!

Some toads and snakes have a different way to keep predators from eating them. They puff themselves up to look bigger. They do this because it is hard for predators to catch and eat bigger animals.

Pufferfish have both of these adaptations. They puff up to look bigger AND they have long, sharp spines. A pufferfish can change from an ordinary-looking fish into a threatening spiky ball in a few seconds. Then, only the biggest animals would try to eat it.

The ocean is a dangerous place. But adaptations like sharp spines and puffing up help keep the pufferfish safe.