Fight to Survive!

Imagine that you are walking along a path in the woods. Suddenly you are face-to-face with a bear! Would you like to be able to leap high into the air to escape? What if you could curl up in an impenetrable, armored ball? Perhaps you would prefer to run as fast as a car? Animals have the ability to do some of these amazing things. Over many generations, they have developed both physical and behavioral defense mechanisms that allow them to survive.

Physical Defense Mechanisms

A Tough Exterior

Did you know that knights, from long ago, used armor to protect themselves from enemies during battle? Today, some animals still protect themselves with external structures similar to a knight's armor. The millipede, a worm-like arthropod with many legs, uses its hard exoskeleton to protect itself. When faced with danger, the millipede curls up in a tight coil. This keeps it safe from predators such as birds, toads, and badgers.

The three banded armadillo's name means "little armored one." It also relies on a tough external shell for protection. An armadillo can run amazingly fast when threatened/ by a predator. However, it is more likely to curl up into a tough ball that predators can't penetrate.

Hide and Seek

The ostrich has a very odd defense mechanism. When faced with danger, the ostrich flops down and stretches its neck flat along the ground. Since the head and neck are lightly colored, they blend into the sandy soil. From a distance, only the ostrich's body can be seen. For that reason, people have sometimes thought that the ostrich was actually hiding its head in the sand. This is a myth. The ostrich's head is always exposed on top of the ground. It is just well camouflaged!

Many animal babies also use camouflage. Springbok fawns stay hidden in the brush before they join the herd with their mother. Their tawny coats blend into the background, making it difficult for predators to see them.

Warning! Stay Away!

In addition to external structures, many animals also have internal structures that help them survive. The yellow-spotted millipede produces a toxic fluid, hydrogen cyanide, when threatened. Hydrogen cyanide is not only poisonous, it also has a foul smell. Like other animals that taste or smell bad, the yellow spots on the outside of the millipede's body send a clear warning about the poison inside its body. The distinctive colors send a warning: "Eat me and you'll be sorry!"

Similarly, the bright yellow, white, and black bands of the monarch caterpillar warn predators not to eat this little creature. When it emerges, the monarch caterpillar eats only the milkweed leaf. Milkweed has a toxic chemical in it. Monarch caterpillars eat the poisonous milkweed leaves and incorporate the milkweed toxins into their bodies. This makes the caterpillar's body taste bitter. Even when the caterpillar transforms into a butterfly, the toxins stay inside its body. Animals that ingest a monarch get very sick. Predators, especially birds, will not make that mistake more than once! Both the warning coloration of their bodies and their toxicity help monarchs to survive.

Behavioral Defense Mechanisms

Peek-a-Boo

Animals may also have special behaviors that help them survive. If the three banded armadillo's coat of armor isn't enough to discourage a hungry predator, it also has another line of defense. Instead of closing completely into a tight ball, this armadillo leaves a small gap between its shells. When a persistent predator inserts a paw or a snout}, the armadillo quickly snaps its shells shut. Ouch! The attacker is startled or injured and hopefully goes looking for a meal elsewhere.

Ready, Set, Go!

If you can't fight, run! Fleeing from predators is a very effective defensive behavior. For example, an adult springbok can run almost/ as fast as/ a car on a highway. Springbok are among the top ten speediest animals in the world! That's important since one of their primary predators, the cheetah, is too. Springboks really need to run fast in order to survive and avoid becoming a cheetah's dinner!

Ostriches also use speed to escape from predators. They are strong runners with long, powerful legs. They can cover great distances without much effort. In fact, ostriches have the longest legs of any bird. They are the fastest birds in the world! Even though ostriches have wings, they can't fly to escape from predators. Instead, they use their wings like rudders on boats to help steer their bodies as they move swiftly across the land.

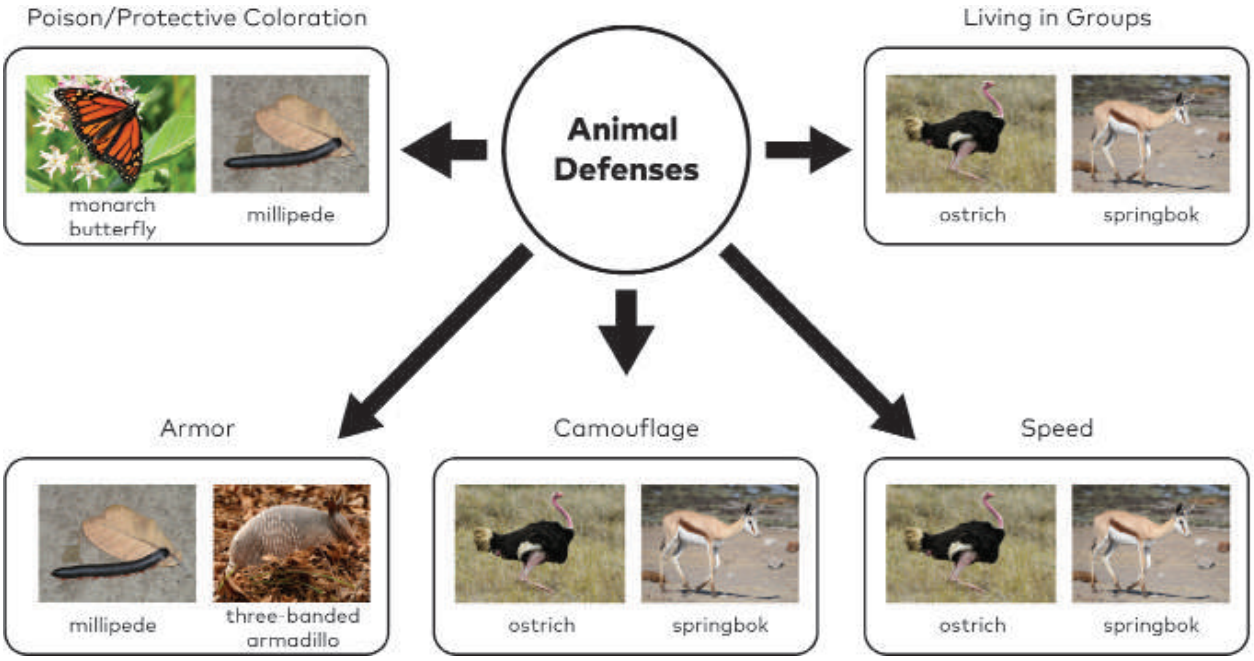
Safety in Numbers

The springbok's tendency to live in large groups or herds is another defensive behavior. Being part of a herd has benefits. In a herd, many eyes, ears, and noses are alert for danger. A cheetah slinking through tall grass could easily be missed by some members/of the herd. However, one alert springbok is all that is needed to set the whole herd in motion! There is also safety in numbers. Many animals moving at once can confuse a predator and make it difficult to choose only one springbok to chase. The odds of being eaten are much lower when an animal is in a group of one hundred!

Ostriches live in groups for similar reasons. Their long necks and keen vision allow them to see for great distances. One ostrich can warn others when a predator approaches. The ostrich flock also works together to raise their young. The dominant male and female then take primary responsibility for hatching the flock's eggs in a community nest. That is another advantage of living in a group. There is a lot of help for raising babies!

Amazing Defenses

Predators are constantly looking for food, and prey like millipedes, armadillos, ostriches, butterflies, and springboks want to avoid being eaten! Defense mechanisms increase their chances of survival. Some animals have special internal and external physical structures that help them survive, like the armadillo's tough shell or the poison-producing glands of the yellow spotted millipede. Many also use behaviors like fleeing or living in herds to protect themselves. These body structures and defensive behaviors have evolved over a long period of time to give animals their best chance at survival. Just imagine the defense mechanisms these animals might develop in another thousand years!



Written by EL Education for instructional purposes.
Lexile: 890L
Information from *Animal Behavior: Animal Defenses* by Christina Wilsdon

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