How Does Animal Camouflage Work?

Caption: Can you see the spiny rainforest katydid in this picture?

Now you see them. Now you don't. Animal camouflage makes creatures of all shapes and sizes disappear. Some disappear for protection. Others disappear to take their prey by surprise.

Over the centuries, creatures of all kinds have developed amazing ways to become invisible. Some blend into the background by matching its color and texture. Others make themselves look just like another object.

Some animals have designs such as spots, stripes, or patches as a part of their camouflage. Some are just the right color, and others are able to change their color. Natural pigments, called biochromes, make it possible for animals to produce the colors they need. Tiny physical structures on the skin help other animals by scattering light like a prism. By moving these tiny structures, an animal can change its appearance.

Deer, squirrels, and hedgehogs all have a color and texture to their fur that blends in with the trees around it. This protective coloration helps them hide from predators. A lynx also has coloration that blends in with trees, but it is not so much for its own protection as it is to help the lynx sneak up on its prey.

The Arctic fox also has protective coloration but with an added feature. The Arctic fox has dark fur in spring and summer but turns white in winter to blend in with the snow. Certain frogs can also change their color to match various backgrounds.

Zebras are protected by their pattern of stripes. A group of zebras blends in with the grassland on which the zebras live. You might wonder how this is possible, since the zebras' stripes are black and white and their habitat is green and brown. Lions, which prey on zebras, can see the stripes but not the colors. When they see a herd of zebras in the distance, they see only a mass of stripes which blends in with the background making it very difficult for the lions to identify one zebra to attack.

Many smaller creatures, especially insects, hide by mimicking objects in their environment. There are many insects that can look so much like the leaves or sticks around them that you could be looking right at one and never see it. One species of katydid is green and can easily be overlooked as just another leaf. Another species is part green and part brown to mimic a dying leaf. Another type of leaf mimic insect is known as a walking leaf. There is also a walking stick insect that is the shape, size, and color of a little stick.

Insects are not the only creatures that mimic objects in nature. There are leaf mimic frogs, little brown frogs
that blend in with the dry leaves on the ground, and leaf fish that look like leaves floating in the water.

Some animals use their camouflage to confuse or frighten their predators, not just to hide from them. Zebras' stripes may serve this purpose. With so many stripes to look at, a lion doesn't know where to begin.

Some moths also have startling camouflage - two large spots on their wings that look like giant eyes. When predators get too close, the moths can spread their wings to pop out the two huge "eyes." Maybe their sudden appearance frightens the predator, or maybe the predator thinks that the big eyes are part of a larger animal. The false eyes also distract the predator away from the head of the real moth.

The best way to get a good idea of what animal camouflage is all about is to look at pictures of real animals. Look for a picture of a squirrel hidden in plain view on a tree trunk or a picture of an Arctic fox in the snow. See how long it takes you to spot the hidden animals. Find a picture of a walking stick or a leaf mimic frog, and see if you can spot them among the real sticks and leaves. You'll see why camouflage is such a useful adaptation for these animals.

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Questions

1. Why do animals use camouflage?
   A. to hide from predators
   B. to catch prey
   C. both A and B
   D. neither A nor B

2. The color of a squirrel blends in with ______.
   A. flowers
   B. water
   C. leaves
   D. tree bark

3. Zebras are protected by their ______.
   A. colors
   B. pattern of stripes
   C. eyes
   D. all of the above

4. ______ prey on zebras.
   A. Poisonous frogs
   B. Elephants
   C. Lions
   D. Hedgehogs
5. Katydid mimic an object in nature with their _____ coloring.
   A. green and brown
   B. black and white
   C. gray
   D. blue

6. A walking stick insect looks like a _____.
   A. stone
   B. frog
   C. leaf
   D. stick

7. Name two animals and describe the type of camouflage that each uses.
   ____________________________________________________________
   ____________________________________________________________

8. Why does an Arctic fox change colors?
   ____________________________________________________________
   ____________________________________________________________
Camouflage

Camouflage is the concealment of animals with their surroundings. Match each animal to the description of its camouflage technique.

snowshoe hare  owl butterfly  walking stick
moth  caterpillar  walking leaf
halibut  deer

1. The colors and patterns on the wings of this animal match the bark where it rests during the day.

2. This animal resembles the twigs where it feeds, hiding it from other predators.

3. This insect displays mimicry. The spots on its wings look like the eyes of a predatory bird, scaring off other predators.

4. This larval stage of the swallowtail butterfly also has large spots resembling eyes, making it look frightening to birds and other predators.

5. This mammal changes color during the summer and winter so that it is able to blend in with the snow or the vegetation of its habitat.

6. This insect has enlargements on its legs and abdomen that make it resemble the plants it feeds on.

7. This fish has a flattened body and coloration that allow it to blend in with the sea floor.

8. The young of this mammal have spotted fur to allow them to blend in with the dappled sunlight of the forest floor.