Camouflage

Background

Many animals have evolved behaviors, shapes and colorations to avoid being seen by other species of animals. For prey species, avoiding detection means a better chance of not being eaten. For predators, it means a better chance of catching a meal. For many, it means both.

One common strategy is camouflage. Often, a few stripes or spots to break up the animal's out-line are all that is needed for it to blend with its surroundings. Most species of fish have some form of camouflage—the most basic being a dark-colored back, to blend in with the bottom and avoid being seen from above, and a light-colored belly, to blend in with the sky and avoid being seen from below. Some species, such as flounders, change their coloration to match their sur-roundings. The white-tailed deer fawn is camouflaged with light spots, resembling the dappled light that reaches the forest floor.

Another form of camouflage is to be shaped like some part of the surrounding habitat. An insect called the walking stick is shaped (and colored) like a small twig, and is difficult to detect in the shrubs and trees where it lives. Within the Chesapeake Bay, there are some other spindly creatures that rely on their shape for camouflage. Skeleton shrimp and sea spiders resemble the branched hydroids in which they live. The elusive pipefish hide among the eelgrass by aligning themselves with the strap-like leaves swaying in the currents.

Perhaps the most common strategy to avoid detection is to remain motionless. A fawn will instinctively lay curled on the ground when danger is near, even when its mother bounds away to safety. A killifish will freeze when it detects a predator, only to scoot into the safety of vegetation or other shelter when a predator comes within the critical distance of a few feet. Many snakes typically wait motionless to ambush any prey that wanders into striking distance.

Procedure

Before the Trip:

1. Contact staff at the site to discuss plans and identify the best location for this activity, preferably free of poison ivy, thorny plants, ticks and chiggers. (Staff can advise.)
2. Brainstorm with the class and list on a board examples of animals that can avoid being seen without completely hiding. List the strategy the animal uses and whether it prevents the animal from being eaten, helps it catch food or both. For younger, students, list strategies on the board and use pictures to illustrate them.
3. Explain the field trip plans and the activity described below.

Grade Levels: K-7

Objectives

Students will investigate variations in color patterns, body form and movement that allow for camouflage by:

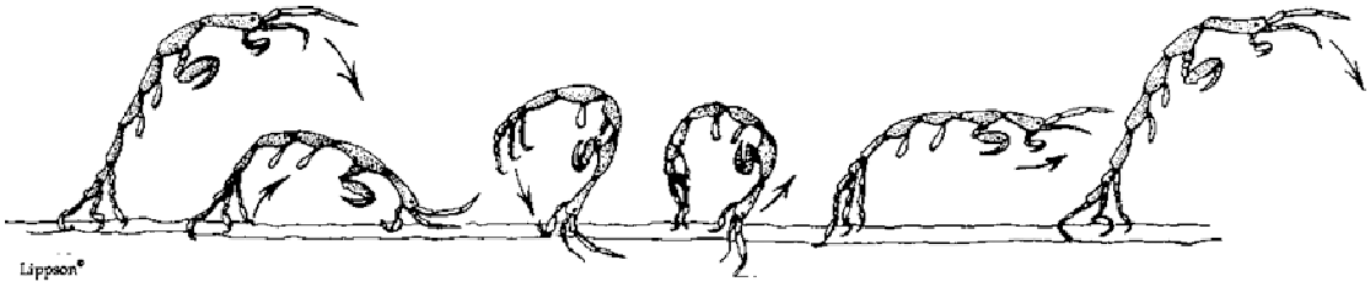
- observing animals in relation to environmental settings;
- inferring explanations for camouflage success.

Materials

- Pencil and pad
- Animal mounts, plastic snakes, spiders, stuffed animals, feathers, turtle shells

At the Site:

1. Select a trail in the park and set a beginning point and a finish line for the students to walk.
2. Before the arrival of students, have someone hide animal mounts, stuffed animals, turtle shells, rubber snakes and spiders alongside the trail. They should be placed under a log, around a tree, under a bush, leaves, etc. They should be well camouflaged and in their natural habitat.
3. Make a note on paper of how many and the kind of animals that were set out and where they were placed so you can pick them up after the activity.
4. When students arrive, ask them what they see as they look down the trail. Explain to them that one of



A skeleton shrimp moves like an inchworm. When still, it resembles a branch of coral or a twig.

the best means of camouflage is to remain motionless.

5. Tell them the number of animals that were placed along the trail.
6. Ask them to take a piece of paper and a pencil and write the names of the animals that they find as they walk down the path. They are not allowed to talk to anyone else or make any motion towards an animal that they find.
7. Allow them time to observe and walk back and forth in order to find the animals. Ask them to return to the starting line when they have found all of the animals or after the time limit (about 15 minutes).
8. When all of the children have returned to the starting point, have them name all of the animals that they found.
9. Collect the animal mounts, etc., and discuss how the colors and patterns of the hides camouflage the animal.
10. Discuss the change in the habitat when the seasons change and how well the animals are hidden with the change.
11. Talk about the animals that will hibernate in the winter in the mud (such as turtles) and under rocks (such as snakes).
12. Discuss what would happen to the animals if the habitat disappeared.

Follow-up:

Have the students write a paragraph on the animals that they found and how the animals were camouflaged by their surroundings. Allow each student to read his or her report.

Have each student invent an animal that lives and hides in a particular habitat, real or imaginary, and draw a picture of it in its environment, showing how it hides. Examples might be "wallagators" with brick patterned backs for life on a brick wall, or "sneaker snakes," that disguise themselves as shoelaces.

When

When leaves are on the trees is best, but it can be done in winter; daylight hours.

Time Required

At the Site: 45-60 minutes for game and discussion.

Variations

Younger students:

To foster a better understanding of the objectives, observe colors and patterns against different backgrounds and pictures of animals camouflaged in their surroundings.

Create a chart by leading the students in a brainstorming activity. List examples of animals that can avoid being seen without completely hiding. Record if the animal is predatory or prey, and if it uses structural or behavioral adaptations to enhance its ability to remain camouflaged.

Example of chart:

Animal	*Predator*	*Prey*	*Structural*	*Behavioral*
Walking Stick		X	Looks like stick, brown	Moves Slowly

SOL – K.1, K.4, 1.1, 1.5, l.7, 2.l, 2.4, 2.5, 2.7, 3.1, 3.4, 3.5, 3.6, 3.8, 3.10, 4.1, 4.5, 5.1, 5.5, 6.1, 6.9, LS.1, LS.7, LS.8, LS.9, LS.10, LS.11, LS.13