

# HOO GIVES A HOOT

## Activity 23

AGE LEVEL = 8-13 (5-7)

DURATION = 40-60 min.

LEARNING STATION = Outdoors, Anywhere

RELATED - ACTIVITY =  $\longleftrightarrow$  Predator-Prey



WHEN =



**UNDERSTANDING:** Nighttime predators have adaptations (built-in tools) that help them hunt successfully.

**SPECIAL NOTES:** The recommended group size for this Activity is 10 to 12. With young children, reduce the size to four to six.

### MATERIALS:

- A flashlight
- A blindfold for each child (see Activity A)

**PREPARATION:** Set the proper mood by speaking in a soft voice. Children listen well when they have to struggle to hear you. This technique also encourages them to speak softly. If you are fortunate enough to have an owl study skin, review owl adaptations.

### LESSON:

**Warm-up:** Begin by quizzing the children on predator-prey relationships. Illustrate the concept using daytime relationships (i.e., hawks and mice, wolves and deer, etc.). Before moving on to owls, be sure the children understand the concept. Explain that owls are the nighttime predator counterparts of day-hunting hawks. Ask: "What makes owls so different than hawks? How do they locate their prey with no light?"

Explain that owls have two ears, one on each side of the head, with one ear higher than the other. Demonstrate how owls locate a noise source using triangulation: choose two children and have one stand to your left (to represent the higher ear) and the other on your right (to represent the lower ear). Blindfold the children, explaining that they must point towards "the mouse" when they hear it squeak. Quietly sneak 20 to 30 feet away and emit a mouse squeak. Have the children point toward the sound, then remove their blindfolds to see if they pinpointed the mouse. (They should be pointing at you). Explain triangulation (hearing from two reference points -- the higher left ear, the lower right ear towards a third point -- the source of sound) while the children remain pointing. Discuss other concepts and owl adaptations depending on your interest or expertise.

**Activity:** Choose a fairly open place and set definite boundaries approximately 50 feet around a center point. Select one child to play the owl and another to sit near the owl and be a "spotter." The remaining children can play mice. Blindfold the "owl-predator" and have the owl stand in the center with the flashlight. Have the mice scatter.

When the spotter says "ready," the mice move slowly and carefully to touch the spotter and thus be safe from the owl. The owl listens for any sounds (rustling of leaves, chuckling, whispering, etc.) and flashes the light in the direction of the sound. If the beam hits a mouse and is seen by the spotter, the mouse must fall dead as if consumed. The game continues until all mice are either safe or dead. Repeat the game so each child can be the owl.

**Wrap-up:** Ask: How did it feel to be the owl? The mice? Would you always enjoy having to move quietly and cautiously? Do you feel more comfortable in the dark now than you did when you were first out in the night?

## OPTIONS AND FURTHER EXPLORATIONS:

1. Here's an alternative method: Have the children join hands in a circle. Choose one child to be the owl and stand in the middle, blindfolded. Choose another child as a mouse, who must stay in the circle. Tell the owl to locate and corner its prey. Give cans filled with rocks to the owl and the mouse. Each time the owl shakes its can, the mouse must immediately shake its in response. The owl must tag the mouse to catch it. Add further excitement by having two or three "mice" with shakers also. Once a mouse is tagged, it becomes the owl.
2. This Activity could be used as a stepping-off point to a night hike or as a confidence builder.

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## OWL ADAPTATIONS

**Eyes** – Large, rounded eyes are for sharp, long-distance vision. They are fixed in their sockets, so owls move their heads to look at objects out of their line of sight. Contrary to popular belief, owls can't move their heads completely around.

At night, we see mostly in black and white, with many shades of gray, like a black and white TV. Most nocturnal animals cannot see color at all. Their eyes are packed with rods (light receptive cells) and have fewer cones (color-perceptive cells) than daytime animals. Using a red-covered flashlight allows humans to observe nighttime animals without disturbing them (they cannot detect the red light). We can also effectively observe them without artificial lights. It takes about 45 minutes for human eyes to adjust totally to the dark. Once adjusted, we can see better than a bear or deer, and almost as well as a cat.

**Facial Disks** – Made of feathers, these are thought to help collect sound and light for the eyes.

**Wings** – Note the comb-like serration on the leading primary feathers of the owl wing, and the smooth, knife-like edge on the wing of a hawk. The serrations break up the air flow on the owl's wing to prevent the whistling sound made by the hawk wing. This is a major reason for the owl's nearly silent flight. (If you have two separated outstretched wings for comparison, have the group close their eyes and listen while you flap each one.)

**Tails** – Frayed edges on the tail feather tips also provide soundless flight. The edge of a hawk's tail is comparatively smooth.

**Feet** – Sharp talons help kill and grasp. (Have the students feel them.) An owl's toes are extended sideways to prevent small mammals from escaping sideways. Note the leg feathering compared with the bare legs of hawks. This feathering is also thought to help with quiet flight.

**Bills** – The strongly curved bill is for ripping and tearing large chunks of meat. Owls have powerful neck muscles for this ripping action. The food is swallowed whole or in large chunks. After all of the digestible material is removed, the remaining hair, bones and other material is balled up and regurgitated in "owl-pellets."

**Ears** – Owls' two ears, one higher and the other lower, automatically triangulate both vertically and horizontally to locate a noise source. Humans determine the direction of sounds through triangulation using both ears, but on a horizontal plane. Show the students the location of the owls' ears by extending your index fingers into each of the ear openings on the study skin. Using their sensitive ears and triangulation, barn owls can locate and kill a mouse in a completely dark room.