



Science Unit: *Temperate Forest*
Lesson 16: *Dissecting Owl Pellets*

School year: 2004/2005
Developed for: Lord Selkirk Annex Elementary School, Vancouver School District
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Grade level: Presented to grades 3 - 4; appropriate for grades 2 - 6 with age appropriate modifications.
Duration of lesson: 1.25 hours

Objectives

1. Learn about what forest owls eat.
2. Discover what an owl pellet is and find out about its contents.
3. Compare the eating habits of an owl compared with other animals (human and non-human).

Background Information

Owls are important predators in the temperate forest ecosystem. Owl species common to the B.C. coastal rainforest include the saw-whet owl, western screech owl, northern pygmy owl, spotted owl (endangered), barred owl, and great-horned owl. Owls feed on rodents (mice, shrews, voles and rats), small birds and reptiles. Unlike other predators, owls have no teeth and must swallow their food whole. The food is passed into the owl's gizzard. Prey is ground up and digested by sand, gravel and digestive juices in the owl's gizzard. Indigestible parts, including fur, feathers, bones, teeth and claws are compressed and then gagged or coughed up by the owl in the form of a pellet. By studying these owl pellets, one can determine the owl's diet.

Vocabulary

Owl pellet: Compressed, non-digestible parts of an owl's food which is coughed up and expelled in a dried oval form.
Gizzard: An organ found in birds which contains sand and gravel as well as digestive fluids to grind and dissolve food.
Birds of prey: Birds which hunt and eat other animals, also known as predator birds and include owls, hawks, eagles.

Materials

- Tweezers
- Toothpicks
- Sterilized owl pellets: can be obtained online or from OWL* (see below).
- Butcher paper
- White glue
- Bone charts* (see below)
- Probes



In the Classroom

Introductory Discussion

1. What are birds of prey? What birds of prey live in our temperate rainforest? What do they eat? Do birds have teeth? How do they “chew” their food?
2. Explain that owls and other birds of prey eat their prey whole. They cannot digest some parts of their meal (fur, bones, teeth, claws and feathers) so they cough or gag up the indigestible parts of their meal in the form of a dry pellet. These pellets tell us a lot about what the owl has eaten. The owl pellets that we will be studying have been sterilized and treated. Show and pass around a pellet. The contents of the pellets are small and delicate. Please be very careful.

Science Activity/Experiment

1. Spread butcher paper on the tables or desks.
2. Give each student a sterilized owl pellet, toothpick, probe, tweezers, and a bone chart.
3. Let students note the colour, smell & texture and measure the length and width of their pellet.
4. Students can make predictions about the contents of their pellets.
5. Let students gently tease out bones and skulls from the pellet.
6. Students can try to identify bones and glue them on to a bone chart/skeleton. Students may trade extra bones for ones they are missing. Try to make a complete skeleton. Students may need to work in groups of 2-3, depending on the number and variety of bones they find.

Closure Discussion

What did your owl eat? What can an owl digest? Not digest? Discuss the food web with owls as the top predators.

References

1. www.owlbrandkits.com
2. <http://www.carolina.com/owls/guide/physical>.
3. http://www.pelletlab.com/images/Poster-Bone_Sort

Extension of Lesson Plan

1. Make a food web using an owl as a top predator.
2. Have presentation by Orphaned Wildlife Rehabilitation Society (OWL*). This presentation includes bringing in live owls and other birds of prey to the school. OWL supplies pellets and bone charts as well as a teacher's package.

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