

OWL PELLETS

RIDGE NOTES



WOLF RIDGESM
ENVIRONMENTAL LEARNING CENTER

For a more detailed description of the Wolf Ridge Owl Pellet class, including concepts, set-up, and background information, please read through the Owl Pellet lesson plan. This can be found in the Owl Pellet kit or requested from your liaison.

Each pair of students needs:

- one owl pellet
- one MysteryWorkbook
- 1 1/2 sheet of paper
- two pairs of forceps
- two dissecting needles
- one index card
- bottle of glue
- paper and pencils for stories

I. Introduction

Greet the students as they enter and make take a minute to learn their names. Discuss clearly and specifically which behaviors you expect from your students during the next 1.5 hours. Explain the need for respect; for you, for each other, for the equipment. Give them a brief class overview.

Find out what the students already know about owls and their habits. Ask questions to determine what students know about food webs and why and how owls form pellets.

II. Barn Owl Adaptations

Read over this page ahead of time. Instead of reading this information to the students, use this page as an outline. Draw the parts of the owl on the board as you talk about them or have students tell you what they know about these different adaptations.

hunting - Owls, like other birds of prey, catch and eat other animals for their food. Unlike the others, however, many are nocturnal, or active at night, and stay here all winter long (they have feathered feet to stay warm).

eyesight - Since owls hunt at night, their eyes contain only rod cells, which gather more light than cone cells, but cannot distinguish colors. So owls see only in black and white, but they could read a newspaper a mile away by the light of a candle (if they could only read). Owl eyes take up so much room in their heads that there is no room for muscles, so owls cannot move their eyes to look around. That is why they turn their whole heads, and can see all the way behind themselves.

hearing - An owl's ears are so sensitive that they can hunt in complete darkness. The feathered facial disk gathers sound waves, and uneven ears hear sounds at slightly different times, which helps the owl determine exact distance and direction of sound.

flight - Silent wings, with soft feathered edges to glide noiselessly through the air, allow them to sneak up on prey as well as hear while they are flying.

digestion - Owls hunt mostly small mammals, birds and invertebrates like insects and worms, which they usually swallow whole. Bones are not digestible, and would puncture the soft, curved intestines of the owl if passed through the digestive tract. So the bones, along with fur or feathers, are formed into a ball or pellet by the gizzard muscles and passed back up the tough, straight esophagus to be cast out twelve hours later. Pellets (or "castings" to falconers) may include bones, teeth, hair, feathers, scales or insect skeletons. They also provide homes for clothes moths, carpet beetles and fungi. You may even find droppings, cocoons or exoskeletons from these animals.

III. Owl Pellet Dissection (See Mystery Booklets for more information)

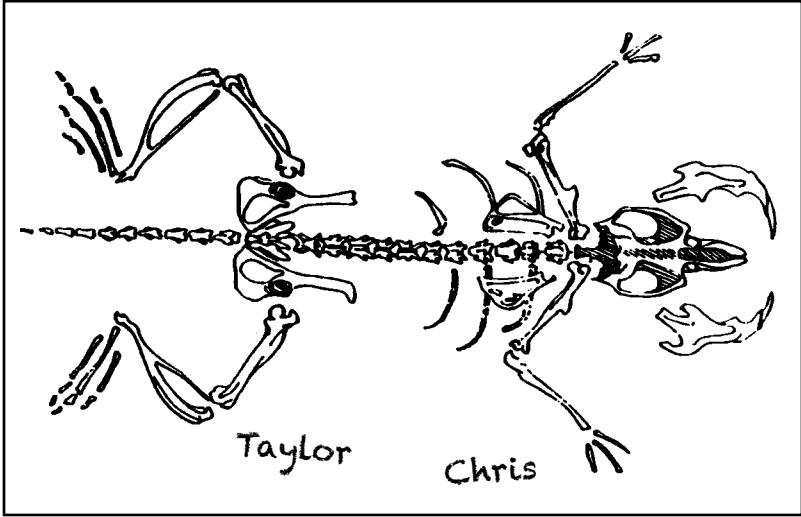
Direct students to work together in pairs to discover what is hidden in their pellets. Using fingers, forceps and the dissecting needles, carefully separate the bones from the soft material in your pellet. Sort the bones into piles according to type, and put all the hair fluff in another pile on a piece of paper.



As students dissect their pellet, help them answer the following questions:

- Do owls chew their food?
- How can you tell?
- What is the soft material?
- How many animals did your owl eat?
- What kinds of animals were eaten?

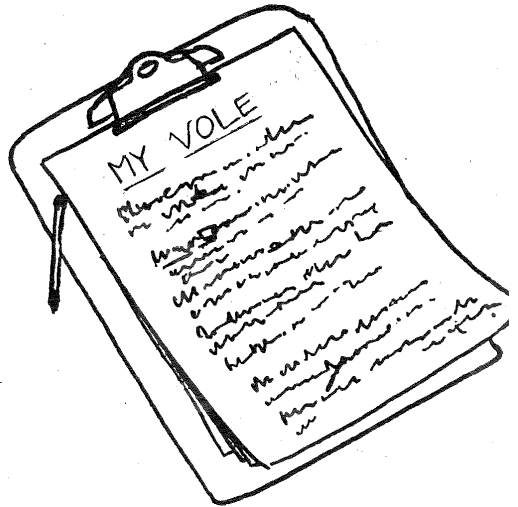
IV. Reconstructing the Skeleton (See Mystery Booklets for more information)
Have students choose one of the skulls from their pellet. They should reconstruct a skeleton of that animal, using the skeleton/bone sorting chart in the Mystery Booklet to help them find the correct bones and locations. They should glue the bones in place on an index card. Have students write their names and the kind of animal on the card. Students can draw many missing bones with their pencils.



V. Story Writing (See Mystery Booklets for more information)

Students should use the food web poster to help them determine the predator/prey relationship of the owl and their animal. Each pair of students should write a story about their animal's life and death, and the importance of both of them to the ecosystem.

Use the story below as an example for students.



“Fred the dead and the unlucky mole, Claw, went for a walk in the woods one day. They heard some squawking but didn’t think anything of it. It was already sundown when we got lost. We were getting worried about the squawking because it

started to get louder. All of a sudden we heard a swooping sound and Fred ducked but the owl, yes owl, got him. I started to run, but I couldn't getaway. He got me, but I was surprised to be swallowed whole. A couple hours later we were dead, but I was told in Animal Heaven that after we were swallowed, we were regurgitated, or puked out in an owl pellet. Someone was walking through the forest and picked us up. Now we were glued to a piece of paper and not put together right. Oh, well! No one's perfect."

by Taylor and Chris

VI. Conclusion

Offer students a chance to read their stories if they want. Discuss what was learned today about the adaptations and roles of owls and their prey.

VII. Clean-up

- Each student should carry left over bones and hair to the wastebasket.
- Tools must be cleaned and placed in their containers.
- Replace all items neatly in bin and return to kit room along with posters and TV.
- Wash hands and table tops with soap and water after class.
- Stack tables and chairs and close windows.



Cool Owl Facts

- Owls can rotate their heads three-quarters of the way around.
- Owls cannot move their eyes from side to side but have extremely flexible necks and can move their heads rather quickly - thus the illusion of a complete turn.
- Owls see perfectly well during the day, and exceptionally well at night.
- Owls have the best hearing of all birds. Their ears are located on the sides of their heads and are hidden by feathers.
- The so-called "ear-tufts" on the top of the head aid in camouflage and recognition between individuals and have nothing to do with hearing.
- If you hear an owl calling, consider yourself fortunate...even more fortunate to observe one in the wild.
- Although some owl species are diurnal (active by day), most owls hunt at night and are seldom observed by humans.
- Snowy Owls hunt at any time of day, adapting to the Arctic's long summer days and equally long winter nights.
- Hunting at night, owls use their extraordinary vision and excellent hearing to locate their prey. Special adaptations such as wide wings, lightweight bodies and unusually soft, fluffy feathers allow them to fly silently.
- Owls seize their prey, usually a rodent or other small mammal, and kill it with their powerful feet.
- If an owl's prey is small enough, it is swallowed whole; otherwise the food is torn apart by the owl's strong, hooked beak.
- There are eighteen species of owls in North America. Some species, like the Screech Owl and the Great Horned Owl, live in one place year round; others, like the Saw-whet Owl and the Short-Eared Owl and the Burrowing Owl will travel long distances.
- All owls are protected by state and federal regulations. It is illegal to capture or kill an owl; it is also illegal to possess an owl, living or dead, without the proper permits from local state governments, and the U.S. Fish and Wildlife Service.
- Owls pose no threat to humans, although adult birds will defend their territory and their young against any intruders, human or otherwise.