Mass Audubon Lesson Plan
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Mass Audubon
Protecting the Nature of Massachusetts

Lesson Name:	Owl Pellets
Name of Sanctuary:	**Berkshire** Sanctuaries
Grade Level:	3-5
Location Options:	In school
Time:	1 hour
For more info:	gtraser@massaudubon.org

Program Description

Students will dissect owl pellets and draw conclusions about an owl's diet and quantity of consumption.

Massachusetts Curriculum Frameworks

Framework:	Science and Technology
Strand:	Life Science
Topic:	**Adaptations of plants and Animals**
Topic:	**Characteristics of Plants and Animals**

Learning Standards

Next Generation Science standards

Cross cutting concepts- landscape history, human effects on the environment

Lesson Objectives

What will students know and be able to do? These objectives must be observable and measurable.

Students will know and be able to:

- Identify characteristics of birds by their diet
- Understand that birds are different and adapted to their environment
- Understand that an owl is a predator that consumes many animals

Materials

Students work in groups of four

Owl Pellet Identification handouts

Pencil

Gloves

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Owl Pellet Dissection materials:

Petri Dishes

Dissecting needles

Wooden sticks

Owl pellets- one per group; can be obtained from Pellets Inc.

Vocabulary

Pellet

Birds of prey

Crop

Proventiculus

Mass Audubon Educator Background

Mass Audubon Educator should:

- Know the process of owl pellet formation
- Be able to identify bones of animals typically found in owl pellets

Assessments

How will you know that the students have met the standards?

- Students will answer a series of questions and will match the bones to the chart

Procedure

1. Mass Audubon Educator will explain to the class that owls and other birds of prey tend to capture and swallow their food whole (no teeth!). The class is given the handout and the educator explains the charts. This serves as a "tune up" for the next part of the class.
2. Educator distributes the dissecting materials, demonstrating each before distribution.
3. **Caution students to be extra safe when using the dissecting needles- At all times they should be pointing down into a petri dish!**

   Educator then explains that each small group will try to identify what animals their owl ate and how many animals it ate. Educator writes the following on the board:

   I. What did your owl eat? How do you know?
   II. How many animals did it eat? How do you know that?

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Students are arranged in groups of four- each with a specific job. The jobs are as follows:

a. Breaker- unwraps the pellet and breaks into smaller pieces

b. Puller- using the dissecting needles, the puller gently pulls the bones from the pieces of pellets.
c. Sorter- using the wooden stick, the sorter cleans off the bones and arranges them in piles of bones that are similar.
d. Matcher- takes the bones and matches them to the chart.

4. Educator then distributes owl pellets to each small group of students. Students begin the owl pellet dissection.

   After about 10-15 minutes, educator announces that each group will share their answers with the class. Educator goes from group to group, and students are praised for their correct answers.

Summarizer

How will the Mass Audubon Educator close the lesson to see if students met the objectives?

- Students will answer correctly the questions posted on the board.

The type and number of animals found in the pellet are totaled and the educator summarizes. "In ___ days, one owl ate_____." (estimating one pellet per day) and noting how many rodents, birds, moles and shrews or other animals are consumed by owls. What animal was the most common prey?

Mass Audubon Teacher Naturalist Reflections

Extrapolating information from the results, students can really see the large number of rodents that owls consume.

Younger students may need hints about how to estimate the number of animals, i.e. count the number of skulls, or the number of hips and divide by two, or the number of jaws and divide by two etc. Remind them to round up!

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Mass Audubon School Programs

At Mass Audubon we strive to create learning experiences that are enriching, innovative, meaningful, and engaging. All our school programs are aligned with Massachusetts Curriculum Frameworks. Our network of wildlife sanctuaries and nature centers located in urban, suburban, and rural communities around the state enable us to have strong relationships with local schools.

Our Education Foundations

- Place-based education is an educational philosophy that connects learning to what is local for an individual. We help build conservation communities, working with students and teachers in cities and towns to develop place-based environmental education that is linked directly to their home community.
- Inquiry-based learning is focused on teamwork, being learner-centered, questioning ourselves and the world around us, providing a more focused, time-intensive exploration, promoting lifelong learning, communication, and learning as fun.
- We are fully committed to creating a positive and supportive environment for all learners.
- We strive to be culturally sensitive, recognizing and embracing cultural differences.

Differentiated Instruction

- We strive to create a positive learning environment that is inclusive, supportive to all learners, and sensitive to cultural diversity.
- Outdoor classroom experiences are structured to meet the needs of the particular learners.
- Students work in small groups using hands-on materials.
- A variety of educational media are used, including colorful illustrations.
- With advance notice, efforts will be made to accommodate all learning styles and physical needs.

Notes

- Nature exploration is dependent upon the weather and other conditions. A class might observe different wildlife than they expected to see. An outdoor lesson can sometimes provide unexpected, but enriching teachable moments on a natural history topic that was not planned.
- Mass Audubon nature centers each have a unique landscape and will customize programs to work best at their particular site.
- Our lessons can be adapted to incorporate a classroom teacher's needs.