

Owl Pellet Dissection

Class Length:

1 hour 15 minutes

Class size:

15 – 25 participants

Class Location:

- EE Building

Materials:

- Owl Pellets (1 per 2 students)
- Blue dissection tweezers
- Magnifying lens
- Wooden Probe
- 2 clean sheets of paper per pair
- Bone Charts
- Small container for soaking tough to dissect pellets
- Raptor Skulls
- Raptor Talons
- Raptor Wings

Objectives:

- Make purposeful observations of the natural world using the appropriate senses
S.IP.03.11, S.IP.04.11
- Use tools and equipment appropriate to scientific investigations S.IP.05.13, S.IP.06.13
S.IP.07.13
- Manipulate simple tools that aid observation and data collection; S.IP.03.14,
S.IP.04.14
- Make accurate measurements with appropriate units for the measurement tool;
S.IP.03.15, S.IP.04.15
- Identify individual differences in organisms of the same kind L.EV.04.21
- Describe the effect humans and other organisms have on the balance of the natural
world S.RS.03.18, S.RS.04.18, S.RS.04.18, S.RS.05.17, S.RS.06.17, S.RS.07.17
- Communicate and present findings of observations and investigations S.IA.04.13,
S.IA.05.13, S.IA.06.13, S.IA.07.13

Class Set-up:

- Each pair of students should get one owl pellet, tweezers, wooden probe, bone sheet, 2 clean sheets of paper, and an observation sheet.

Safety Precautions:

- Remind students to be careful with the dissection tools.

Introduction (10 minutes)

Introduce yourself and tell students that they will be dissecting an owl pellet during the program. Important information to include:

*Show the owl talons, skulls, and wings and ask students to make observations. Jot observations down on the white board. (Ex. Sharp talons, sharp beak, soft feathers)

Talons are strong and sharp and are used to grip surfaces as well as prey.

Beaks are sharp in order to help tear food and kill prey quickly.

Owl feathers (compared to other birds) are very soft. This helps make their flight VERY quiet. (Most owls hunt at night and are ambush predators, so being quiet is very important)

Owls, and other birds of prey like hawks, falcons, and eagles are also known as raptors.

Barn owls swallow their prey whole. To help process all of this food at once, the owl has two stomachs. The food goes into the first stomach and the digestive juices help separate the meat from the indigestible items like bones, nails and hair. Then the meat is sent down to the second stomach and everything else is left in the top stomach. Then the first stomach squeezes all of this indigestible material together into what we call an owl pellet. Finally the owl regurgitates or spits up the owl pellet.

Activity: Pellet Dissection (35 - 40 minutes)

What's on the outside??

Before students begin dissecting the pellet, have them examine the outside of the pellet for clues to where it was gathered. Pellets are collected from a variety of places:

What you might find	Where the owl deposited the pellet
Seeds	Open sheds/fields/barns
Grain	Grain elevator/silos/barns
Dirt/Soil	Under trees
Hay or Straw	Barns/hay sheds
Feathers	Nesting boxes
Pine Needles	Under evergreen trees

What's on the inside??

Place an owl pellet on each teams' work station (a clean sheet of paper).

1. Students may use **probes** to loosen the hair in the owl pellet. If pellets do not come apart easily, soak them in warm water for a few minutes.
2. Once bones come into view, students can GENTLY use the tweezers to remove them and place them on their second sheet of clean paper. (Remind students to be EXTRA careful with any skulls that they find as they break easily.)

3. Once all the bones have been removed, the partners should work to clean the hair off of them. **A trick is to gently roll the left over hair between your fingers to find any small bones or teeth that you might have missed.
4. Students should use magnifying lenses and the bone charts to identify the types of bones and type of skeleton that was found in their pellet.
5. Have students try to reconstruct the skeletons of the animals using the bone identification sheets. Ask questions about types of animals found, if there were different animals in the same pellet, and if there were any complete, or mostly complete skeletons.

Activity: Show & Tell (5-10 minutes)

- Have all the students walk around the room to see all of the bones that have been found through the course of the class.
- Have the students tell the others about their animal and then you as the Facilitator should be ready to supplement additional information asking the kids questions about what they notice.

Conclusion: (10 minutes)

Facilitate clean up with all of the groups. All organic materials are to be thrown away. Probes and tweezers should be wiped clean and/or rinsed and dried. All kits must be put back in the bin.

Turn the students over to their chaperone at the end of the class.

Class Tear-Down:

- Return all CLEAN materials to the EE closet, and wipe down tables. If materials are damaged or missing please inform your supervisor. Make sure to record the number of owl pellets used during your class.

Owl Pellet Dissection

1. Measure the length and width of your owl pellets.

Length of your owl pellet _____ cm

Width of your owl pellet _____ cm

2. Carefully examine the exterior of the pellet.

What you might find	Where the owl deposited the pellet
Seeds	Open sheds/fields/barns
Grain	Grain elevator/silos/barns
Dirt/Soil	Under trees
Hay or Straw	Barns/hay sheds
Feathers	Nesting boxes
Pine Needles	Under evergreen trees

What did you find on the outside of your owl pellet? _____

Where do you think it was found? _____

3. Carefully use a probe to break apart the owl pellet and observe what is within. Use the probe and tweezers to expose all bones for identification. Use the bone diagram to help you identify your bones and complete the chart.

Bones Found

Bone	Type of Animal	Number Found
Skull		
Jaw		
Scapula		
Forelimb		
Hindlimb		
Pelvic Bone		
Rib		
Vertebrae		

4. What type of animal, or animals, do you think your owl ate?

Owl Pellet Dissection

1. What's on the outside?

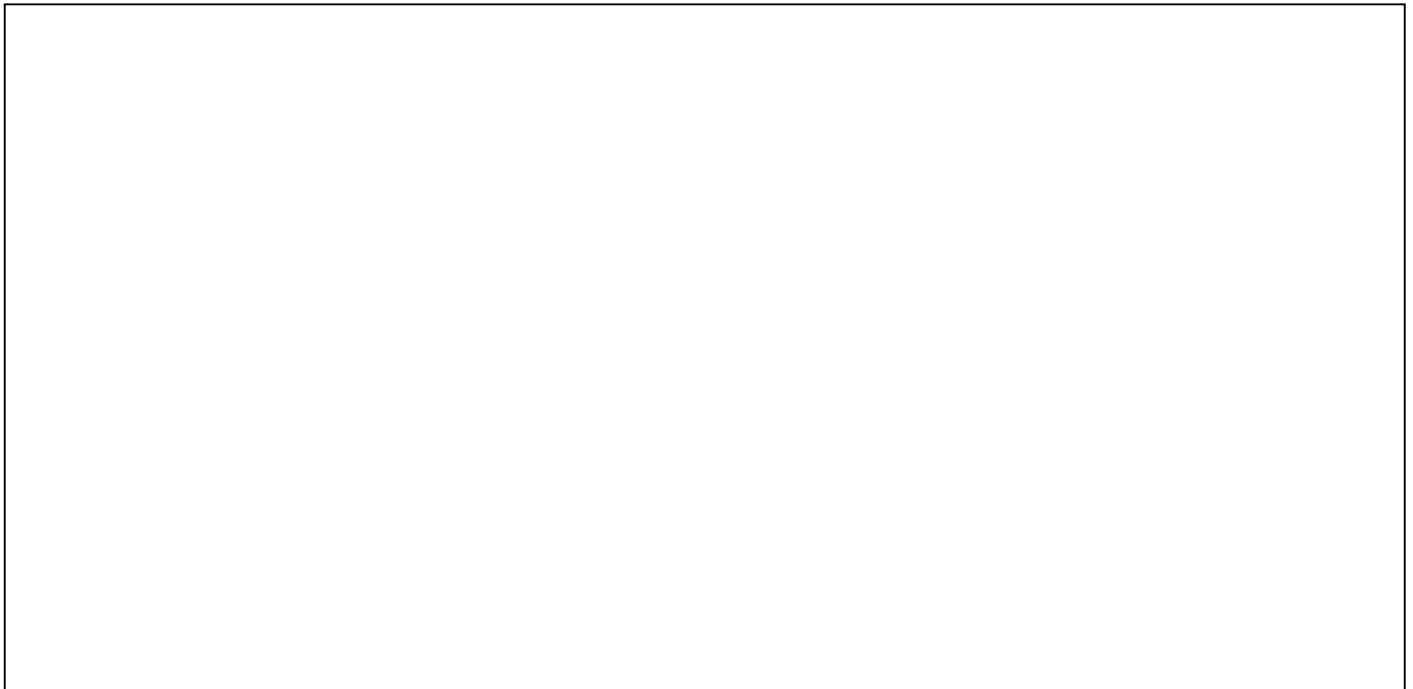
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What did you find on the outside of your owl pellet? _____

Where do you think it was found? _____

2. What's on the inside?

Use the space below to draw what you find:



3. Use the bone chart to find out what kinds of bones you are looking at. What kind of animal or animals do you think your owl ate?