Owl Pellets Lesson Plan

Amount of time demo takes: 5-10 mins.
Don’t try this at home!

Materials

- Owl pellets (1-2 per table)
- Wooden skewers
- Plastic tweezers
- Paper plates
- Magnifying glasses
- Owl Pellets and Common Prey* display
- Specimen jars
- Hand sanitizer
- Gloves
- Newspaper or garbage bag
- Tape

Optional materials: small beaker with diluted bleach solution, a stiff-bristled brush, and several notecards labelled with different bones (“arm bones,” “skulls,” and so on).

Set-up Instructions

1. Tape newspaper or a stretched out garbage bag over the table you’ll be working on (owl pellets are messy!). Set out the small animal skeleton models and diagrams.
2. Unwrap a few owl pellets and set them out.
3. Lay out dissection tools - skewers, tweezers, magnifying glasses, and gloves.

SAFETY!

1. There might be pointy/pokey tools used in dissection.
2. Small fragments in pellet could be a choking hazard. (Let’s hope not, though.)
3. Bleach solution should be kept away from eyes/face. Rinsed if contact is
made with skin.

Lesson’s Big Idea
● We can explore the owl’s role in the food web by dissecting pellets and trying to identify prey based on bones.

Background Information
● Owls frequently swallow their prey whole (mice, shrews, voles, small birds).
● Owls can only digest the soft muscles and organs of their prey. Bones, teeth, fur, feathers, scales, etc. of their prey cannot be converted into energy by the owl, and the harder parts may also damage their digestive tract.
● The waste material found in owl pellets is formed by the gizzard muscles and passed back up the esophagus to be cast out (that is, vomited up in little blobs).
● Other birds, such as eagles and hawks also regurgitate pellets. Owls are more efficient, as they regurgitate more frequently (~every 12 hours).

Instructional Procedure
1. Invite visitors to join you in exploring what’s inside an owl pellet. Ask if they know what owl pellets are, discussing owl eating habits. Be sure to let participants know the pellets are sterile (they have been treated at high temperature).
2. Welcome the students to take a glove and put it on their non-writing hand -- this is the hand that will hold the pellet. With their writing hand, they can take the tweezers and separate the pellet. Dive in! Separate the soft fur material from the bones.
3. If the event is busy, only allow each group of students to find ~5 bones and try to identify them before trading off. If you find yourself in a lull, feel free to work with enthusiastic students for as long as is reasonable.
4. Optional: once a bone is very, very clean it can be dropped into the bleach solution for a short time to whiten slightly.
5. Optional: create note cards with different bone categories. Students can use the diagrams to separate the bones into these categories, placing them on the notecards.

Assessment/sample questions you can ask
● Which animals were found in your pellet?
● How can you distinguish a leg bone? An arm bone?
• Why do owl pellets form?

Clean Up
• Clean up periodically! Fur, dust, bone fragments, and other bits of fluff will quickly accumulate on the table. Scoop up debris and toss it in the trash occasionally to keep the space workable.
• At the end, brush off tweezers and magnifying glasses, packing them neatly away. Untape the trash bag from the table and fold it up to keep all the mess inside.
• With moist wipes or paper towels, wipe down the laminated anatomy charts, specimen jars, and anything else that got covered in pellet dust. Put unused pellets back into the baggies.
• Tuck everything away neatly into the bin. Let someone know if anything was broken, lost, or used up so that it can be replenished!

Next Generation Science Standards
• K-5
  ○ K-LS1-3
  ○ 5-LS1-3
  ○ 5-LS2-1/2
• 6-8
  ○ MS-LS2-1/2
• 9-12
  ○ HS-LS2-1/2