



# HAWKQUEST®

Environmental Education using Live Birds of Prey

Thank you to Xcel Energy Foundation and their Environmental Partnership Program

## Laboratory Detectives — Owl Pellet Dissection 101 (Suitable for grades 2-12)

### OBJECTIVE

To discover what owls eat, examine the contents of owl pellets and attempt prey skeleton reconstruction.

### TEACHER BACKGROUND

Because owls swallow small prey whole. For large owls, like the Great Horned Owl, this may include small birds, mice, voles and even some rats. For smaller owls, like Screech Owls, this may include amphibians and insects. The digestive fluids of owls are very weak and they cannot digest body parts like bones, teeth, feathers or fur. Owls, therefore, must regurgitate pellets or castings of the indigestible bits before eating their next large meal. Regurgitation of pellets is similar to how cats cough up hair balls.

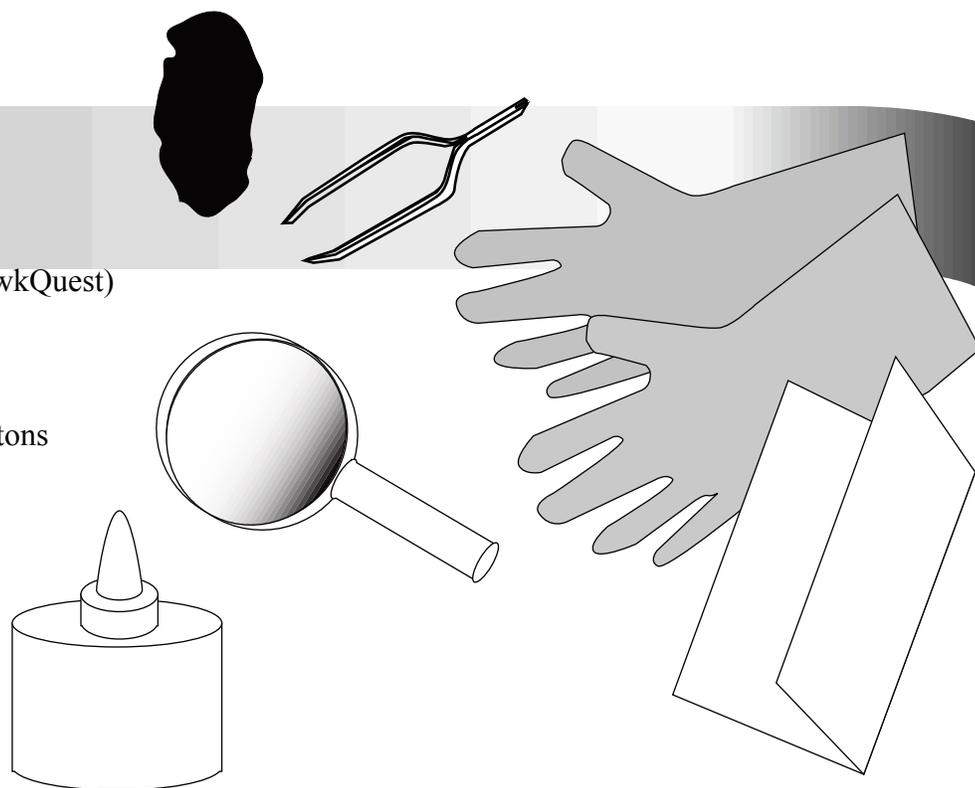
Identify with the class that other birds beside owls regurgitate pellets. Among these are crows, pelicans, and even some songbirds (songbird pellets contain hard indigestible seeds). All raptors or birds of prey (hawks, eagles, kites, owls, falcons) regurgitate pellets daily. Owl pellets are perhaps the most interesting because owls swallow many of their prey whole. By dissecting owl pellets, scientists can get an accurate record of what owls eat by reconstructing the skeletons of the animals in the pellets.



Owl Pellet  
Photograph by Tina Lopez

## MATERIALS

Owl Pellets (available through HawkQuest)  
Plastic, Disposable Gloves  
Magnifying Glass  
Tweezers or Needles  
Chart of Mouse, Vole or Rat Skeletons  
Glue



## PROCEDURE

1. Have students wear plastic, disposable gloves. Remember you are dissecting something that  was once inside an owl!
2. Measure and note the shape of the pellet by tracing or drawing its shape. Ask students if they  think this pellet came from a large or small owl.
3. Place pellet on a clean work surface, like a piece of paper. Using tweezers and/or needles and  a hand lens carefully break open the pellet and separate out the bones, teeth, fur and other   body parts.
4. Place the bones in a row.
5. Try to reassemble the skeleton and overlay it on a chart of birds, shrew or rodent skeletons.
6. Add a bit of fur or feathers in the corner of the chart and label.

## DISCUSSION

If an owl can make one pellet a day, how many mice, voles, rats or birds must it catch in one week, month or year?

If teeth were found in the dissection, do they belong to a herbivore or carnivore?



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Birds

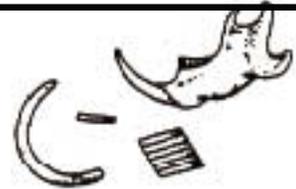
Shrews

Rodents

Skulls



Jaws



Scapula  
(Shoulder  
Blades)



Front  
Limbs



Hips



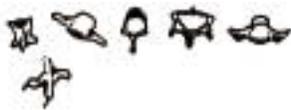
Hind  
Limbs



Ribs



Vertebrae



# Rodent Skeleton

