



Nature-Watch Activity Kit

Owl Pellet Dissection

(Nature Watch Kit #400t)

Kit Contents

<u>Item:</u>	<u>Qty</u>
Owl Pellets	25
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Wooden Probes	8
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This page includes the Next Generation Science Standards (NGSS) mapping for this kit and Science, Technology, Engineering, and Math (STEM) extensions (on back) to use in adapting and extending this activity to other subject areas.

Next Generation Science Standards Alignment

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS4-2. Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships

**See Back for
STEM Extensions**

This Nature Watch Activity Kit contains an Instructor Manual and materials to implement the curriculum. The kit was designed to be used with adult supervision only. Unsupervised use is not recommended.

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Owl Pellets

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STEM Extensions

Science

There's a common perception that owls are wise and they are often used as a symbol for having smarts. Owls actually have smaller brains than other birds, but they have adaptations that help them live successfully. Think about what an owl is wise about. What is it good at? What does it know well? Use what you've learned about owls to create a report card for them, listing various skills and knowledge, and assigning grades for how well they do. Be creative and show what you know.

Voles, shrews, and mice are common prey of the barn owl. Compare and contrast these three animals by creating an owl dating game show with your classmates acting as the participants. The three rodents will be the contestants and an owl will select one of them as his next meal after learning all about the three through questions that determine how well they match.

The best barn owl habitats for hunting are open ones with long, rough grass that has a deep layer of leaf litter. This could include the edges of woodlands or farms and other such locations. Create a 3-D habitat in your classroom and hide small voles throughout it. Turn the lights down low (not totally dark) to simulate nighttime and challenge your classmates to find the voles.

Technology

Listen to recordings of owl calls online. Do they sound like the "Who-Who" we associate with owls? Describe the different kinds of owl calls you hear. Try to learn several owl calls, then ask a classmate to play them back to you in a random order and guess which owl each call belongs to. If you know you have a certain owl species nearby, play a recording of that owl's call and see if any owls respond.

Go online to watch an owl cam – a real-time video feed that gives you a close-up view of live owls. Watch the owls and take note of interesting behaviors. How are they similar to other animals you are familiar with? What kinds of behaviors do you observe? How active are they? Make observations, then discuss them with your classmates to compare notes.

Engineering

Build an owl nest box to provide a safe place for an owl in your area. You can find design instructions and pointers online. Think about a good location to place the nest box, where the owl will feel protected.

Sometimes people place owl decoys on top of homes or other buildings to keep rodents away, almost like a scarecrow in the crops. Think of a place where an owl decoy might be useful and design one that would fit well there. What kinds of materials would you use to build it? How big would it be? Which way would it face? And what kind of effect do you think it would have? Draw a sketch and make a price list for materials for your decoy.

Math

Owls exhibit bilateral symmetry (except for their ears, which are asymmetrically placed to hear better!), meaning that if you draw a vertical line down their middle, the two sides are mirror images of one another. Print a large owl picture and fold it in half so you only see one half of the owl. Tape the half of the owl to another sheet of paper. Across both parts of this new page, draw a grid of straight lines going up and down and side to side. Then, draw the other half of the owl on the blank side to complete the picture. Use the grid lines on the visible half of the owl to help you figure out where to draw to make it symmetrical.

Owls can turn their heads as much as 270 degrees (but not all the way around to 360 degrees, which is a common misconception). See how this compares to your field of view. Draw a large chalk circle on the ground and divide it up evenly into four pieces, each of which contains 90 degrees. Stand in the center of the circle facing one direction along one of the lines. Turn your head to one side and record the farthest things you can see in your field of view on that side. Then, turn 270 degrees clockwise (3 pieces of the "pie" of your circle) so that you are facing the direction of the line that marks 270 degrees. What do you see here that you couldn't see when you simply turned your head? An owl that started in your same starting point would be able to see all this without turning their body, but just by turning their head from that starting position!