# Pre-Lab Information

**Purpose** Use a virtual lab to explore how owl pellets are used to study ecology.

**Time** Approximately 60 minutes

**Question** How are owl pellets used to study ecology?

**Summary** In this lab, you will dissect an owl pellet. As you pull the pellet apart, you will find many different types of bones from the animals the owl ate. You will then match these bones to a bone chart to determine which animals the bones came from. This will help you draw conclusions about what the owl ate and where the owl may live.

# Scenario

In the beginning of this virtual lab activity, you will see the outline of three owls that live in three very different environments. Your job is to select the correct environment for the owl you choose based upon the bones you find in the owl pellet. Some bones are common to all prey animals and some bones are unique to particular prey animals. The common bones will not help you to identify the environment of your owl, but the unique bones will.

# Lab Procedure

1. **Begin the owl pellet dissection.** 
   1. Select **Play** to begin.
2. **Select an owl to begin the virtual lab.** 
   1. When you select an owl, you will see that owl spit out an owl pellet.
3. **Dissect the owl pellet.** 
   1. A screen loads that shows the owl pellet, your dissecting tools, and an inventory chart. The dissecting needle remains stationary throughout your dissection. Select the forceps to begin moving parts of the owl pellet. When you hover over a piece of the owl pellet with the forceps, you will see that segment of the pellet highlight. Select the highlighted segment to remove it from the screen. As bones become visible, use the forceps to pick up the bones and move them into a square within the inventory chart. You will see the name for the bone appears underneath the image once the bone is docked in the chart. Make a drawing of the bone in Table A in the data section below. Also, record the name of the bone in Table A. You may select the **?** at any time during the virtual activity to help you complete it.
   2. Continue to move pieces of the owl pellet and dock bones in the inventory chart until all 12 bones are in place. Be sure all 12 bones are illustrated in Table A and all 12 names of the bones are recorded.
4. **Identify the prey of the owl.**
   1. To match the bone from the inventory chart to the prey, select the bone and then drag it over the matching bone within the prey silhouette. The bone will dock if it matches. If the bone does not match, it will slide back to the inventory chart. You can toggle through the mouse, shrew, bat, gopher, and gull silhouettes.
   2. Information windows will pop up when you have docked all bones for a prey animal within the silhouette, or you can select **i** to read the information. These pop-up windows provide details about the prey animals. Some of the pop-up windows will contain information on prey animals that are common to all three owls and some of the pop-up windows contain information that is unique to a particular owl. Read these pop-up windows as they provide information to help you match the owl to its environment. Use the **x** in the pop up to close that window. Pop-up windows for the common animals will only have one screen of information to read. Pop-up windows for the unique animals will have multiple screens of information to read. Navigate through these screens by selecting each of the circles underneath the prey animal image. Record the names of the common and unique prey in Table A.
   3. When you have matched all of the bones to the correct prey animals, select **Continue** to move forward.
5. **Select the environment that the owl lives in.** 
   1. Three environments preview on this screen. Select the environment where your owl lives. If you select the correct environment, the image will open to a full screen and you can read more about your owl. If you select an incorrect environment, you will be able to try again. Record the name of your owl and its environment in Table A.
   2. If you would like to repeat the lab again to explore the other owls, you may do so by selecting **Play Again**.
6. **Review the lab.**

# Data

Record your data either in your lab notebook or in the table below.

**Table A**

|  |  |  |
| --- | --- | --- |
| Bone name: | Bone name: | Bone name: |
| Bone name: | Bone name: | Bone name: |
| Bone name: | Bone name: | Bone name: |
| Bone name: | Bone name: | Bone name: |
| Which prey is common to all owls? | | |
| Which prey is unique to your owl? | | |
| What is the name of your owl? | | |
| What is the name of the environment your owl lives in? | | |