

# Owl Food Web Activity

**Subject:** Learning about food webs, including producers, consumers, and decomposers using owl pellets. Students will construct a food web based on their learning.

**Duration:** 30-45 minutes

**5E:** Explore and Explain

**Group Size:** Entire class, small groups, or individual

**NGSS Performance Standard- 5-LS2-1:** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment

**Disciplinary Core Idea: LS2.A: Interdependent Relationships in Ecosystems-** The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants.

**Cross-Cutting Concepts: Systems and System Models-** A system can be described in terms of its components and their interactions.

**Science and Engineering Practices: Developing and Using Models-** Modeling in 3–5 builds on K–2 models and progresses to building and revising simple models and using models to represent events and design solutions.

- Develop a model to describe phenomena

**Learning Objective:** Students learn how to identify an owl pellet and will explore the contents of an owl pellet. Then they will create a diagram of a food web that includes a great horned owl.

**Method:** Students observe the whole owl pellet and parts of a dissected owl pellet in this [video](#). Students will use knowledge learned about what a great horned owl eats to create a food web.

**Materials:** Food Web Example, Owl Pellet Bone Chart, paper, pencils, and computer

- Teachers or parents can purchase owl pellets for their students to dissect if they wish at [www.pellet.com](http://www.pellet.com)

**Preparation:** gather materials listed above.

**Procedure:**

1. Explore an owl pellet by watching this [video](#) or by dissecting an owl pellet of your own!
  - a. Where do owl pellets come from?
  - b. Describe the outside of the owl pellet.
  - c. As you or the video opens up the owl pellet, describe what you see.
  - d. Why are there so many bones in an owl pellet?
  - e. Identify some bones using the Owl Pellet Bone Chart.
  - f. What can you learn from those bones?
  
2. Next, students will construct a food web that includes a great horned owl.
  - a. *“Has anyone heard of a food web before?”*
  - b. *“A food web shows all the food chains in an ecosystem. A food chain is made up of producers, consumers, and decomposers. Does anyone know what those words mean?”*
    - i. Producers- are organisms that produce their own food such as plants. They use energy from the sun to do this (photosynthesis)
    - ii. Consumers- are organisms that consume other organisms. They can be carnivores (consuming animals), herbivores (consuming plants), or omnivores like us! (consuming plants and animals)
      1. Primary consumers are herbivores that eat producers such as plants
      2. Secondary consumers are carnivores and omnivores who eat producers and primary consumers
      3. Tertiary consumers are carnivores that feed on primary and secondary consumers. They are the apex (top) predator
    - iii. Decomposers- are organisms that break down dead organisms such as a fallen tree or dead animal. An example of a decomposer is a mushroom or a worm. They are a very important part of the cycle for returning energy to the soil.
  
3. *“Now you are going to create your own food web that incorporates the great horned owl.”* Show students the example food web. *“Here is an example of a food web. Your food web should include drawings and labels of the organisms as well as arrows to show how energy (food) moves through the web--in other words, who eats whom? The arrow starts at the food and points at the animal consuming it.”*
  - a. *Your food webs should include (write or post and read out loud): wildflowers, great horned owl, gopher, snake, redwood tree, sun, mushroom, worm, lizard, and grass”*
  - b. *Label each organism as producer, consumer, or decomposer.*
  
4. Show Food Web Example, provide materials for constructing food webs (paper, pencils).
5. Have students compare their food webs with one another.
6. Review which organisms are producers, consumers, and decomposers
  - a. Producers- sun, wildflowers, grass, redwood tree
  - b. Consumers- great horned owl, gopher, snake, lizard

- c. Decomposer- mushroom and worm
7. Optional Discussion
- a. What are some things that could disrupt or change a food web?
  - b. How do you think people using rat poison might affect the food web?
    - i. When secondary consumers eat primary consumers that have been killed by poison, the poison can be transferred to the secondary consumers and harm them. Poisons can travel up the food chain.
    - ii. Plastic also moves through the food chain in the same way.