# Mammal

Earth & Space Science | Lesson Guide

1st Grade

## Photo Description

A gray squirrel sits in a garden eating an orange piece of food. The squirrel holds the food in its small paws. Green plants and red flowers grow around the squirrel.

## Scientific Phenomena

This image represents the Anchoring Phenomenon of animal feeding behavior and habitat adaptation. The squirrel demonstrates how animals use their body parts (paws, teeth, eyes) to obtain and consume food from their environment. This behavior occurs because squirrels have evolved specific physical adaptations that allow them to grasp, manipulate, and eat various foods. Their dexterous front paws function like hands, while their sharp teeth can gnaw through tough materials. This feeding behavior is driven by the animal's need for energy and nutrients to survive.

## Core Science Concepts

1. Animal Body Parts and Functions: Squirrels have specialized body parts (paws for grasping, teeth for chewing, tail for balance) that help them survive in their environment.

2. Animal Needs: All animals need food, water, air, and shelter to live and grow. The squirrel is meeting its food needs.

3. Animal Habitats: Animals live in places that provide everything they need to survive. This garden habitat provides food and shelter for the squirrel.

4. Animal Behaviors: Animals do things to help them survive, like finding and eating food.

**Pedagogical Tip:**

Use hand motions when teaching about animal body parts - have students pretend to hold food like a squirrel, showing how their hands work like the squirrel's paws. This kinesthetic approach helps cement the connection between structure and function.

**UDL Suggestions:**

Provide multiple ways for students to demonstrate understanding: drawing animal body parts, acting out animal behaviors, or creating a simple chart matching animals to their special body parts. This supports different learning preferences and abilities.

## Zoom In / Zoom Out

1. Zoom In: Inside the squirrel's mouth, special teeth called incisors grow continuously throughout its life. These sharp, chisel-like teeth help the squirrel crack nuts and gnaw on hard foods.

2. Zoom Out: This squirrel is part of a larger backyard ecosystem where many animals (birds, insects, worms) and plants all live together. Each animal has a role - squirrels help spread seeds when they bury nuts, helping new trees grow.

## Discussion Questions

1. What body parts does the squirrel use to eat its food? (Bloom's: Identify | DOK: 1)
2. How are a squirrel's paws similar to and different from your hands? (Bloom's: Compare | DOK: 2)
3. Why do you think squirrels have such bushy tails? (Bloom's: Analyze | DOK: 2)
4. What would happen if a squirrel lived somewhere with no trees? (Bloom's: Predict | DOK: 3)

## Potential Student Misconceptions

1. Misconception: "Squirrels are just like pets and should be fed by people."
   Clarification: Wild squirrels are different from pets and can find their own food in nature. Feeding wild animals can make them sick or dependent on humans.

2. Misconception: "All animals eat the same food."
   Clarification: Different animals have different body parts that help them eat different types of food. Squirrels eat nuts and seeds, while birds might eat worms or nectar.

## Cross-Curricular Ideas

1. Math - Counting and Patterns: Count the number of flowers, plants, and squirrel body parts in the image. Create simple patterns using pictures of squirrels and nuts (squirrel-nut-squirrel-nut). Measure squirrel tail lengths or paw sizes using non-standard units like paper clips.

2. ELA - Animal Stories and Descriptive Language: Read and discuss stories about squirrels finding food. Have students draw a squirrel and write or dictate 1-2 sentences describing what they see using adjectives (fuzzy, busy, hungry). Create a class book titled "Squirrels in Our Garden" with student pages.

3. Social Studies - Community Helpers and Habitats: Discuss how gardeners and park rangers help create safe habitats for squirrels. Take a nature walk around the school or neighborhood to observe animals in their habitats and discuss how humans can help protect them.

4. Art - Mixed Media Collage: Create squirrel art using gray tissue paper, cotton balls for the fluffy tail, and orange paper for food. Students can add real leaves and seeds to their collage to explore different textures found in squirrel habitats.

## STEM Career Connection

1. Wildlife Biologist: A scientist who studies animals like squirrels in nature to learn how they live, what they eat, and how to keep them healthy and safe. Wildlife biologists spend time outdoors observing animals and taking notes about what they see. Average Annual Salary: $65,000

2. Zookeeper or Animal Care Specialist: A person who takes care of animals by feeding them, keeping their homes clean, and making sure they stay healthy and happy. Some zookeepers work in parks and gardens where wild animals live. Average Annual Salary: $32,000

3. Botanist or Gardener: A scientist or gardener who studies and cares for plants, including the plants that animals like squirrels need for food and shelter. They help create gardens and natural spaces where animals can find everything they need to survive. Average Annual Salary: $48,000

## NGSS Connections

- Performance Expectation: K-LS1-1 - Use observations to describe patterns of what plants and animals need to survive
- Disciplinary Core Idea: K-LS1.C - Animals have body parts that capture and convey different kinds of information needed for growth and survival
- Crosscutting Concept: Patterns - Patterns in the natural world can be observed and used as evidence

## Science Vocabulary

* Habitat: The place where an animal lives and finds everything it needs to survive
* Adapt: When an animal's body parts help it live in its home
* Paws: The feet of some animals that have toes and can grab things
* Behavior: The things animals do to stay alive and healthy
* Survive: To stay alive by getting food, water, air, and shelter

## External Resources

Children's Books:
- Nuts to You! by Lois Ehlert
- Squirrels Leap, Squirrels Sleep by April Pulley Sayre
- Those Darn Squirrels! by Adam Rubin