Mammal

Earth & Space Science | Lesson Guide

Kindergarten

Photo Description

A gray squirrel sits in a garden holding an orange piece of food in its front paws. The squirrel has a big fluffy tail and is surrounded by green plants and flowers. It is eating the orange food with its small hands.

Scientific Phenomena

The Anchoring Phenomenon shown is animal feeding behavior and habitat use. The squirrel demonstrates how animals meet their basic survival needs by finding food in their environment. This behavior occurs because all living things need energy from food to survive, grow, and stay healthy. The squirrel's physical features (hands for grasping, teeth for chewing) are perfectly designed to help it gather and eat different types of food.

Core Science Concepts

1. Living vs. Non-living: The squirrel is a living thing that needs food, while the orange food piece and garden plants represent how living things interact with their environment.

2. Animal Needs: All animals, including squirrels, have basic needs including food, water, shelter, and air to survive.

3. Animal Body Parts: Squirrels have special body parts (paws, teeth, tail) that help them survive in their habitat.

4. Habitats: Gardens and yards provide habitats where animals like squirrels can find food, water, and shelter.

Pedagogical Tip:

Use real photographs like this one to help kindergarteners make concrete connections between science concepts and their everyday observations. Ask students to share their own squirrel sightings to build on prior knowledge.

UDL Suggestions:

Provide multiple ways for students to express their observations - through drawing, acting out squirrel movements, or using simple words. Consider having students use hand gestures to mimic how squirrels hold and eat food.

Zoom In / Zoom Out

1. Zoom In: Inside the squirrel's mouth, special teeth help break down the food into tiny pieces that can travel to its stomach, where the food gets broken down even more to give the squirrel energy.

2. Zoom Out: This garden is part of a larger neighborhood ecosystem where many animals (birds, insects, squirrels) depend on plants and human-provided food sources, creating a web of relationships between living things.

Discussion Questions

1. What do you notice about how the squirrel is holding its food? (Bloom's: Observe | DOK: 1)
2. Why do you think the squirrel chose to eat in the garden instead of somewhere else? (Bloom's: Analyze | DOK: 2)
3. What other animals might visit this garden to find food? (Bloom's: Apply | DOK: 2)
4. How are the squirrel's front paws similar to or different from your hands? (Bloom's: Compare | DOK: 2)

Potential Student Misconceptions

1. Misconception: "Squirrels only eat nuts."
   Clarification: Squirrels eat many different foods including fruits, vegetables, seeds, and sometimes even insects.
2. Misconception: "Animals don't need to drink water if they eat food."
   Clarification: All animals need both food AND water to survive and stay healthy.
3. Misconception: "Squirrels are pets that belong to people."
   Clarification: Squirrels are wild animals that live outside and take care of themselves in nature.

Cross-Curricular Ideas

1. Math - Counting & Patterns: Have students count how many flowers, plants, or seeds they see in the photo. Create patterns using orange and green colored objects to match the squirrel and garden. Practice one-to-one correspondence by matching pictures of different foods to squirrels.

2. ELA - Descriptive Writing & Storytelling: Ask students to draw and label pictures of squirrels eating. Create a simple class book titled "Squirrels in Our Garden" where each student contributes one page with a sentence starter like "The squirrel eats ___." Use action words (munch, nibble, chew) to describe what the squirrel is doing.

3. Art - Nature Collage & Observation Drawing: Students create squirrel artwork using gray, brown, and orange materials (tissue paper, paint, natural items). Make a garden collage by gluing real leaves, seeds, and flowers onto paper. Draw or paint what they observe when they look closely at the squirrel's body parts.

4. Social Studies - Community Helpers & Responsibility: Discuss how people can help animals in their neighborhoods by planting gardens and leaving out safe foods. Talk about being respectful observers of nature and not chasing or disturbing wild animals in their habitats.

STEM Career Connection

1. Wildlife Biologist: A wildlife biologist is a scientist who studies animals like squirrels in nature. They watch what animals eat, where they live, and how they behave. They help us understand how to keep animals healthy and safe. Average Annual Salary: $65,000

2. Gardener/Horticulturist: A gardener grows plants and flowers, sometimes on purpose to help feed local animals. They know what plants are healthy, how to care for soil, and which foods animals like to eat. Gardeners create beautiful outdoor spaces where animals can find food and shelter. Average Annual Salary: $35,000

3. Veterinarian: A veterinarian is a doctor for animals! They help sick or hurt squirrels and other wildlife feel better. They study animal bodies and learn what foods keep animals healthy and strong, just like a regular doctor helps people. Average Annual Salary: $95,000

NGSS Connections

- Performance Expectation: K-LS1-1 - Use observations to describe patterns of what plants and animals (including humans) need to survive
- Disciplinary Core Ideas: K-LS1.C - Organization for Matter and Energy Flow in Organisms
- Crosscutting Concepts: Patterns

Science Vocabulary

* Habitat: The place where an animal lives and finds everything it needs to survive
* Survive: To stay alive by getting food, water, air, and shelter
* Observe: To look carefully at something and notice details about it
* Living: Something that grows, needs food and water, and can have babies
* Paws: The feet of animals like squirrels that have toes and claws

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