Mourning Dove

Life Science | Lesson Guide

5th Grade

Photo Description

This image shows a mourning dove sitting on the ground among dried twigs and leaves. The bird has soft, grayish-brown feathers with darker spots on its wings and a small, dark beak. Its body appears plump and rounded, which helps keep it warm during cooler weather.

Scientific Phenomena

The anchoring phenomenon shown here is animal adaptation for survival in different seasons. The mourning dove displays several adaptations that help it survive: its neutral-colored feathers provide camouflage against predators, its body position conserves heat, and its ground-dwelling behavior allows it to search for seeds and other food sources. The dove's physical features and behaviors have evolved over time to help it successfully find food, avoid danger, and maintain its body temperature in various environmental conditions.

Core Science Concepts

1. Animal Adaptations: Physical features like feather color, beak shape, and body size help animals survive in their environment
2. Camouflage and Protection: The dove's mottled brown and gray feathers help it blend into its surroundings to avoid predators
3. Behavioral Adaptations: Ground-feeding behavior and seasonal movement patterns help the bird find food and suitable habitat
4. Structure and Function: The dove's small, pointed beak is perfectly designed for picking up small seeds from the ground

Pedagogical Tip:

Use the "See-Think-Wonder" thinking routine when introducing this image. Have students observe what they see, share what they think is happening, and generate questions about what they wonder about the bird's survival strategies.

UDL Suggestions:

Provide multiple ways for students to demonstrate their understanding of animal adaptations by offering choices such as creating a labeled diagram, acting out the adaptations, or building a model of the bird's habitat with craft materials.

Zoom In / Zoom Out

1. Zoom In: At the microscopic level, the dove's feathers have tiny structures called barbules that zip together to create insulation and waterproofing, while specialized cells called melanocytes produce the pigments that create the camouflage coloring.

2. Zoom Out: This mourning dove is part of a larger food web ecosystem where it serves as both predator (eating seeds, insects) and prey (for hawks, cats, snakes), helping to disperse plant seeds across the landscape and contributing to forest regeneration and biodiversity.

Discussion Questions

1. What physical features help this mourning dove survive in its environment? (Bloom's: Analyze | DOK: 2)

2. How might this bird's survival strategies change if it lived in a desert instead of a forest? (Bloom's: Evaluate | DOK: 3)

3. What evidence from the photo suggests this bird is well-adapted to ground feeding? (Bloom's: Apply | DOK: 2)

4. If you were designing a bird to survive in your local environment, what adaptations would you include and why? (Bloom's: Create | DOK: 4)

Potential Student Misconceptions

1. Misconception: "Birds choose their feather colors to match their surroundings."
Clarification: Feather colors are inherited traits that developed over many generations through natural selection, not conscious choices.

2. Misconception: "All birds migrate south for winter."
Clarification: Many mourning doves are year-round residents in their territories, using behavioral and physical adaptations to survive cold weather rather than migrating.

3. Misconception: "Birds sitting on the ground must be sick or injured."
Clarification: Many bird species, including mourning doves, naturally spend much of their time on the ground searching for food like seeds and small insects.

Cross-Curricular Ideas

1. ELA - Descriptive Writing: Have students write a "day in the life" narrative from the mourning dove's perspective, describing what it sees, hears, and experiences as it searches for food and avoids predators. Students can use sensory details and the vocabulary from the science lesson to create vivid descriptions.

2. Math - Data Collection and Graphing: Students can conduct a bird-watching survey in your schoolyard or local park, tallying how many different bird species they observe and how much time each spends on the ground versus in trees. They can then create bar graphs or pictographs to display their data and compare findings with classmates.

3. Art - Camouflage Collage: Students create mixed-media collages showing how the mourning dove blends into its natural habitat. Using torn paper, fabric scraps, twigs, and leaves, they can design a background environment and then add their dove illustration to demonstrate how camouflage works visually.

4. Social Studies - Migration Patterns and Geography: Students research mourning dove migration routes and create maps showing where these birds travel seasonally. They can compare this to human migration patterns and discuss how geography, climate, and natural resources influence movement for both animals and people.

STEM Career Connection

1. Ornithologist (Bird Scientist): An ornithologist is a scientist who studies birds—their behavior, habitats, health, and how they adapt to different environments. Ornithologists might work in nature reserves, universities, or zoos, observing birds like mourning doves and conducting research to help protect endangered species. Average Annual Salary: $65,000 - $75,000

2. Wildlife Biologist: A wildlife biologist studies how animals interact with each other and their environment. They might track mourning dove populations, monitor ecosystem health, or work on conservation projects to protect bird habitats from destruction. Wildlife biologists often work outdoors and use technology like GPS tracking and camera traps. Average Annual Salary: $68,000 - $82,000

3. Ecological Illustrator or Scientific Illustrator: These artists create detailed, accurate drawings and paintings of animals and plants for textbooks, research publications, and educational materials. An ecological illustrator might draw mourning doves and their habitats to help people understand how these birds survive, combining art skills with scientific knowledge. Average Annual Salary: $55,000 - $70,000

NGSS Connections

- Performance Expectation: 5-LS2-1 - Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment
- Disciplinary Core Ideas: 5-LS2.A, 5-LS1.C, 3-LS4.B
- Crosscutting Concepts: Patterns, Structure and Function

Science Vocabulary

* Adaptation: A special feature or behavior that helps an animal survive in its environment
* Camouflage: Colors or patterns that help an animal blend in with its surroundings to hide from predators
* Habitat: The natural place where an animal lives and finds everything it needs to survive
* Predator: An animal that hunts and eats other animals for food
* Behavior: The way an animal acts or responds to its environment
* Trait: A characteristic or feature that an animal inherits from its parents

External Resources

Children's Books:
- What Do You Do With a Tail Like This? by Steve Jenkins
- Feathers: Not Just for Flying by Melissa Stewart
- Birds: Nature's Magnificent Flying Machines by Caroline Arnold