Mourning Dove

Life Science | Lesson Guide

4th Grade

Photo Description

A mourning dove sits quietly on the dark soil in a garden filled with green plants and white flowers. The bird has gray-brown feathers and is resting near a large clay pot and some small evergreen shrubs. This peaceful scene shows how wild animals can live alongside plants in outdoor spaces.

Scientific Phenomena

The anchoring phenomenon shown is habitat selection and animal-plant interactions in a garden ecosystem. The mourning dove has chosen this garden location because it provides essential survival needs: shelter from the dense vegetation, potential food sources from seeds and plants, water access, and safe nesting materials. This demonstrates how animals actively select environments that meet their basic life requirements, and how human-created spaces like gardens can support wildlife when they contain the right combination of resources.

Core Science Concepts

1. Habitat Requirements: Animals need specific environmental conditions including food, water, shelter, and space to survive and reproduce.

2. Animal Adaptations: The mourning dove's coloring, body shape, and behaviors are adaptations that help it survive in various environments.

3. Ecosystem Interactions: Gardens represent human-modified ecosystems where plants and animals interact, showing how living things depend on each other and their environment.

4. Life Cycles and Reproduction: Birds like mourning doves need safe spaces to build nests and raise their young, which influences where they choose to live.

Pedagogical Tip:

Use the "See-Think-Wonder" thinking routine with this image. Have students first observe what they see, then think about what's happening, and finally wonder about questions they have. This builds scientific observation skills and generates student-driven inquiry.

UDL Suggestions:

Provide multiple ways for students to record their observations - drawing, verbal descriptions, or digital tools. Consider pairing students so English language learners can discuss observations in their home language before sharing in English.

Zoom In / Zoom Out

Zoom In: At the cellular level, the dove's feathers contain specialized cells called melanocytes that produce pigments creating the gray-brown coloration. These pigments help with camouflage by matching natural environments like soil and tree bark.

Zoom Out: This garden is part of a larger urban ecosystem where mourning doves migrate seasonally across continents. The dove may travel hundreds of miles between breeding and wintering grounds, connecting this single garden to a vast network of habitats across North America.

Discussion Questions

1. What evidence do you see that this garden provides what the mourning dove needs to survive? (Bloom's: Analyze | DOK: 2)

2. How might this garden habitat change during different seasons, and how would that affect the animals living here? (Bloom's: Evaluate | DOK: 3)

3. If you were designing a garden to attract birds, what features would you include and why? (Bloom's: Create | DOK: 3)

4. What other animals might also find this garden habitat suitable for their needs? (Bloom's: Apply | DOK: 2)

Potential Student Misconceptions

1. Misconception: "Birds live in gardens because they like pretty flowers."
   Clarification: Birds choose habitats based on survival needs like food, water, shelter, and nesting sites, not aesthetic preferences.

2. Misconception: "All birds eat the same things."
   Clarification: Different bird species have specialized diets - mourning doves primarily eat seeds, while other birds eat insects, nectar, or fish.

3. Misconception: "Animals don't need to choose where they live."
   Clarification: Animals actively select habitats that provide their specific survival requirements, and poor habitat choices can threaten their survival.

Cross-Curricular Ideas

1. ELA - Narrative Writing: Have students write a short story from the mourning dove's perspective, describing a day in the garden. They can describe what the bird sees, hears, and experiences while looking for food and shelter. This combines creative writing with deeper understanding of animal behavior and habitat needs.

2. Math - Data Collection and Graphing: Students can conduct a bird observation project in a school or home garden over several weeks. They record how many birds visit, what types of birds they see, and when they visit most often. Then create bar graphs or pictographs to display their data, practicing data organization and visual representation skills.

3. Social Studies - Community Gardens: Connect to the concept of how communities create and maintain shared spaces. Research local community gardens in your area or invite a local gardener to speak about how they design gardens to support both people and wildlife. Discuss how gardens reflect community values and bring people together.

4. Art - Nature Observation Sketching: Students create detailed pencil or watercolor drawings of the mourning dove and surrounding garden plants. Focus on observing and accurately representing colors, textures, and proportions. Display sketches alongside written habitat descriptions to create an illustrated field guide.

STEM Career Connection

1. Ornithologist (Bird Scientist): An ornithologist is a scientist who studies birds—how they live, what they eat, where they migrate, and how they interact with their environments. Ornithologists might work in nature centers, zoos, universities, or parks, observing birds and teaching others about them. They help protect bird habitats and endangered species. Average Annual Salary: $65,000

2. Landscape Designer/Ecologist: A landscape designer creates beautiful outdoor spaces like gardens and parks while also thinking about the plants and animals that will live there. They choose which plants to include so that gardens support wildlife like birds, bees, and butterflies. These professionals help design spaces that are good for both people and nature. Average Annual Salary: $58,000

3. Wildlife Biologist: A wildlife biologist studies how animals live in their natural habitats and helps protect them. They might track animal populations, study migration patterns, restore damaged habitats, or work to help endangered species survive. Some wildlife biologists focus specifically on birds and their needs. Average Annual Salary: $63,000

NGSS Connections

- Performance Expectation: 3-LS4-3 - Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- Disciplinary Core Ideas: 3-LS4.C - Environmental changes affect organisms and habitats
- Disciplinary Core Ideas: 3-LS1.B - Growth and development of organisms
- Crosscutting Concepts: Cause and Effect - Events have causes that generate observable patterns
- Crosscutting Concepts: Systems and System Models - A system is a group of related parts that make up a whole

Science Vocabulary

* Habitat: The natural home where an animal finds everything it needs to survive
* Adaptation: Special features that help animals survive in their environment
* Ecosystem: A community of living things interacting with each other and their environment
* Camouflage: Colors or patterns that help animals blend in with their surroundings
* Migration: The seasonal movement of animals from one place to another
* Environment: All the living and non-living things that surround an organism

External Resources

Children's Books:
- "A Seed Is Sleepy" by Dianna Hutts Aston
- "Birds, Nests and Eggs" by Mel Boring
- "Our Animal Friends at Maple Hill Farm" by Alice and Martin Provensen