Anole

Life Science | Lesson Guide

2nd Grade

Photo Description

This lizard has a bright orange and white fan under its chin called a dewlap. The lizard's body is brown and gray with spots and patterns. It sits on dead leaves and looks like it is showing off its colorful throat.

Scientific Phenomena

The Anchoring Phenomenon is animal communication through visual displays. This anole lizard is extending its dewlap (throat fan) as a form of communication. Male anoles display their colorful dewlaps to establish territory, attract mates, or warn other lizards to stay away. The bright orange color and contrasting patterns make the signal easily visible to other lizards, even from a distance. This behavior is an adaptation that helps the species survive and reproduce successfully.

Core Science Concepts

1. Animal Communication - Animals use body parts like colors, sounds, and movements to send messages to other animals
2. Camouflage and Display - The lizard's body blends with leaves (camouflage) but its dewlap stands out (display)
3. Animal Adaptations - Special body parts help animals survive, find mates, and protect their homes
4. Behavioral Patterns - Animals repeat certain actions for specific reasons like finding food or staying safe

Pedagogical Tip:

Use hand gestures and body movements when discussing animal communication. Have students practice "displaying" like the lizard by extending their arms or making themselves look bigger. This kinesthetic approach helps cement the concept of visual communication.

UDL Suggestions:

Provide multiple ways to represent dewlap extension: show the actual photo, use a pop-up book mechanism, and have students create their own "dewlap" with colorful paper fans. This supports visual, tactile, and kinesthetic learners while making the concept accessible to all students.

Zoom In / Zoom Out

Zoom In: The dewlap contains blood vessels that can fill with blood to make it expand and become brighter. Special muscles control when the dewlap extends and retracts, similar to how we control our facial expressions.

Zoom Out: This communication behavior is part of a larger ecosystem where many animals use visual signals. Birds show bright feathers, flowers display colorful petals to attract pollinators, and even some trees change leaf colors to communicate seasonal changes.

Discussion Questions

1. What do you think the lizard is trying to tell other lizards with its bright orange dewlap? (Bloom's: Analyze | DOK: 2)

2. How is the lizard's dewlap similar to ways humans communicate without talking? (Bloom's: Analyze | DOK: 3)

3. Why might it be important for the dewlap to be a bright color instead of brown like the lizard's body? (Bloom's: Evaluate | DOK: 2)

4. What other animals have you seen that use bright colors or special body parts to communicate? (Bloom's: Remember | DOK: 1)

Potential Student Misconceptions

1. Misconception: The lizard is sick or hurt when showing its dewlap
   Clarification: The dewlap display is normal, healthy behavior that helps lizards communicate

2. Misconception: All lizards have the same colored dewlap
   Clarification: Different lizard species have different colored dewlaps, just like different birds have different colored feathers

3. Misconception: The lizard keeps its dewlap out all the time
   Clarification: Lizards only extend their dewlaps when they need to communicate, then pull them back in

Cross-Curricular Ideas

Language Arts: Have students write or dictate simple sentences about the anole lizard using the pattern "The lizard _____ to _____." For example: "The lizard shows its dewlap to tell other lizards to go away." This builds sentence structure while reinforcing the cause-and-effect relationship of animal communication.

Art: Students can create their own colorful dewlap fans using red, orange, and yellow paper, paint, or markers. They can decorate a paper plate or fan shape to represent different lizard species, then use these props during dramatic play to act out lizard communication scenarios.

Mathematics: Create a simple graph showing different colors of dewlaps (real or imaginary lizard species) and have students count and compare. For example: "How many more red dewlaps are there than orange dewlaps?" This integrates data collection and comparison skills with the science content.

Social Studies: Discuss how different communities (neighborhoods, schools, families) have different "signals" or ways of communicating, just like different lizard species have different dewlap colors. This helps students understand that communication varies across cultures and groups.

STEM Career Connection

Herpetologist - A herpetologist is a scientist who studies reptiles and amphibians like lizards, snakes, and frogs. They observe how these animals live, what they eat, and how they communicate with each other. Herpetologists might work in zoos, nature centers, or universities. Average Annual Salary: $68,000

Zoo Educator or Naturalist - Zoo educators work at zoos, aquariums, and nature centers teaching visitors about animals like anole lizards. They give presentations, answer questions, and help people understand why animals behave the way they do. This job combines science knowledge with teaching skills. Average Annual Salary: $35,000

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Wildlife Photographer or Videographer - Wildlife photographers take pictures and videos of animals in nature to help scientists study them and to teach people about animals. They need to know a lot about animal behavior so they can capture special moments like a lizard displaying its dewlap. Average Annual Salary: $42,000

NGSS Connections

Performance Expectation: 1-LS1-2 - Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive

Disciplinary Core Ideas:
- 1-LS1.B - Animals have body parts that capture and convey different kinds of information needed for growth and survival

Crosscutting Concepts:
- Patterns - Patterns in the natural world can be observed and used as evidence

Science Vocabulary

* Dewlap: A flap of skin under an animal's throat that can extend to show bright colors
* Communication: When animals send messages to each other using sounds, colors, or movements
* Display: When an animal shows off special colors or body parts to send a message
* Adaptation: A special body part or behavior that helps an animal survive
* Territory: An area that an animal claims as its own space
* Camouflage: Colors or patterns that help an animal blend in with its surroundings

External Resources

Children's Books:
- What Do You Do With a Tail Like This? by Steve Jenkins and Robin Page
- Lizards by Gail Gibbons
- A Color of His Own by Leo Lionni

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