Life Science | Lesson Guide

Photo Description

This lizard has gray skin with spots and stripes. It is showing off a bright orange fan under its chin. The orange fan has white dots on it.

Scientific Phenomena

This image shows an anole lizard displaying its dewlap - a colorful throat fan used for communication. The dewlap extends when the lizard wants to communicate with other lizards, establish territory, or attract mates. This is a behavioral adaptation that helps the animal survive by sending visual signals to other animals without making sounds that might attract predators.

Core Science Concepts

1. Animal Communication: Animals use body parts like colors, sounds, and movements to "talk" to each other
2. Adaptations: Special body parts help animals survive in their environment
3. Animal Behavior: Animals do certain things to stay safe, find food, and communicate with others
4. Body Parts and Functions: Different animal body parts have special jobs to help the animal live

Pedagogical Tip:

Use dramatic play to help students understand animal communication. Have students practice "showing off" like the lizard by puffing out their chests or spreading their arms wide to demonstrate how animals use their bodies to communicate.

UDL Suggestions:

Provide multiple ways for students to express their understanding by allowing them to draw, act out, or use simple words to describe how animals communicate. Use visual supports like picture cards showing different animal behaviors.

Zoom In / Zoom Out

1. Zoom In: The dewlap contains tiny muscles that contract to extend the colorful skin flap, and blood vessels that make the colors appear brighter when filled with blood.

2. Zoom Out: This lizard is part of a larger ecosystem where many animals use visual displays to communicate, including birds showing bright feathers, fish changing colors, and mammals using body postures.

Discussion Questions

1. What do you think the lizard is trying to say with its orange fan? (Bloom's: Analyze | DOK: 2)
2. How is this lizard's throat fan like the way you use your hands to wave? (Bloom's: Apply | DOK: 2)
3. What other animals do you know that use colors or body parts to communicate? (Bloom's: Remember | DOK: 1)

4. Why might it be helpful for animals to "talk" without making sounds? (Bloom's: Evaluate | DOK: 3)

Potential Student Misconceptions

1. Misconception: The lizard is angry or trying to hurt something when it shows its dewlap.
   Reality: The dewlap is used for communication, not aggression - like waving hello to a friend.

2. Misconception: All lizards have the same colored throat fan.
   Reality: Different types of lizards have different colored dewlaps, and some lizards don't have them at all.

3. Misconception: The lizard's throat fan stays out all the time.
   Reality: The dewlap only comes out when the lizard wants to communicate, then goes back in.

Cross-Curricular Ideas

1. Language Arts - Storytelling: Have students create a simple story about what the anole lizard might be "saying" with its dewlap display. Students can dictate their stories while you write them down, then illustrate their narratives. This connects animal communication to narrative writing and vocabulary development.

2. Art - Color Mixing: Provide students with watercolors or colored markers to mix and create their own orange and yellow color combinations. Have them paint or draw their own "dewlap designs" on paper lizard cutouts, exploring how different colors can be bright and eye-catching like the real anole's display.

3. Math - Counting and Patterns: Count the white dots on the dewlap together as a class. Then have students create their own dot patterns using dot stickers on paper lizard shapes. This reinforces number recognition and introduces the concept of visual patterns in nature.

4. Social Studies - Communication Around the World: Discuss how different cultures and people use hand signals and body language to communicate (like waving, thumbs up, or nodding). Compare these human communication methods to how the anole lizard uses its dewlap, helping students understand that all living things need ways to share messages.

STEM Career Connection

1. Zookeeper: Zookeepers take care of animals in zoos and wildlife centers. They feed the animals, keep their homes clean, and watch to make sure the animals are healthy and happy. They learn about how animals like anole lizards behave and what they need to live. Average Annual Salary: $28,000

2. Wildlife Biologist: Wildlife biologists are scientists who study animals in nature. They watch animals like anole lizards and learn about their behaviors, how they communicate, and how they live together in their environments. This helps us protect animals and keep nature healthy. Average Annual Salary: $65,000

3. Veterinarian: Veterinarians are animal doctors who take care of pets and wild animals when they get sick or hurt. They might treat anole lizards at zoos or animal hospitals, and they need to understand how different animals' bodies work and what makes them healthy. Average Annual Salary: $95,000

NGSS Connections

- Performance Expectation: 1-LS1-1: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
- Disciplinary Core Idea: 1-LS1.A - All organisms have external parts that they use to perform daily functions

- Crosscutting Concept: Structure and Function - The shape and stability of structures of natural and designed objects are related to their function

Science Vocabulary

* Dewlap: A colorful flap of skin under an animal's chin used for communication
* Communication: How animals share messages with each other
* Display: When an animal shows off a body part to send a message
* Adaptation: A special body part that helps an animal survive
* Behavior: The things animals do to stay alive and healthy

External Resources

Children's Books:
- What Do You Do With a Tail Like This? by Steve Jenkins
- Animal Talk by Etta Kaner
- How Do You Know It's Spring? by Allan Fowler