Predator and Prey

Life Science | Lesson Guide

Kindergarten

Photo Description

A green lizard sits on a big dragonfly with clear wings. The dragonfly has pretty patterns on its wings that look like lines and dots. They are both sitting on green plants.

Scientific Phenomena

This image captures a predator-prey interaction in nature. The gecko (lizard) has caught a dragonfly as food. This represents the natural feeding relationships that exist in ecosystems, where animals must eat other living things to survive and get energy. The gecko's sticky toe pads allow it to climb on plants and catch flying insects like dragonflies.

Core Science Concepts

1. Animals need food to live and grow - The gecko must eat other animals (like insects) to survive
2. Body parts help animals survive - The gecko has special sticky feet for climbing and a long tongue for catching prey
3. Animals live in habitats - Both the gecko and dragonfly live among green plants that provide shelter and food sources
4. Living and non-living things - Students can identify the living animals and plants versus non-living elements in the photo

Pedagogical Tip:

Use this image to help students practice sorting living vs. non-living things. Have them point to each element and explain why it's alive (grows, needs food, moves) or not alive.

UDL Suggestions:

Provide multiple ways for students to engage with this concept by offering hands-on manipulatives like toy animals, picture cards for sorting, and opportunities for students to act out predator-prey relationships through movement and role-play.

Zoom In / Zoom Out

1. Zoom In: The gecko's toe pads have millions of tiny hairs called setae that use molecular forces to stick to any surface, even upside down on glass
2. Zoom Out: This predator-prey relationship is part of a larger food web where energy flows from plants to insects to reptiles to larger predators, maintaining ecosystem balance

Discussion Questions

1. What does the gecko need the dragonfly for? (Bloom's: Understand | DOK: 1)
2. How do you think the gecko was able to catch the flying dragonfly? (Bloom's: Analyze | DOK: 2)
3. What would happen if there were no insects for geckos to eat? (Bloom's: Evaluate | DOK: 3)

4. What other animals might eat insects like this dragonfly? (Bloom's: Apply | DOK: 2)

Potential Student Misconceptions

1. Misconception: "The lizard is being mean to the dragonfly"
   Clarification: Animals aren't mean when they eat other animals - they need food to live, just like we do

2. Misconception: "All lizards eat bugs"
   Clarification: Different lizards eat different foods - some eat plants, some eat insects, and some eat both

3. Misconception: "The dragonfly could have flown away easily"
   Clarification: Geckos are very fast hunters with special adaptations that help them catch quick prey

Cross-Curricular Ideas

1. Math - Counting and Patterns: Count the legs on the dragonfly (6 legs on the insect body, plus wings). Create patterns using green and brown colors found on the gecko and dragonfly. Compare sizes: Is the gecko bigger or smaller than the dragonfly?

2. ELA - Storytelling and Vocabulary: Have students dictate or draw a story about "A Day in the Life of a Gecko" or "The Dragonfly's Adventure." Create a word wall with action words like "catch," "hunt," "fly," and "climb" that describe what the gecko and dragonfly do.

3. Art - Nature Collage and Color Mixing: Use tissue paper, paint, and natural materials to create a mixed-media artwork of geckos and dragonflies. Explore how to mix colors to make different shades of green. Trace wing patterns from the photo to practice fine motor skills.

4. Social Studies - Animal Homes and Communities: Discuss where geckos and dragonflies live in the world. Create a classroom "habitat map" showing different environments where these animals are found. Talk about how animals live together in nature communities.

STEM Career Connection

1. Biologist (Animal Scientist): Biologists are scientists who study animals like geckos and dragonflies to learn how they live, what they eat, and how they survive. They spend time outside observing animals and taking notes. They help us understand why animals are important and how to protect them. Average Salary: $65,000/year

2. Wildlife Photographer: Wildlife photographers take beautiful pictures of animals in nature, just like the photo you're looking at! They travel to different places, wait patiently for animals to appear, and use special cameras to capture amazing moments. Their photos help teach people about animals. Average Salary: $45,000/year

3. Entomologist (Bug Expert): Entomologists are scientists who study insects like dragonflies. They learn about how insects grow, what they eat, and how many different types of insects live in our world. Some entomologists help protect insects that are in danger. Average Salary: $64,000/year

NGSS Connections

- Performance Expectation: K-LS1-1 - Use observations to describe patterns of what plants and animals need to survive
- Disciplinary Core Ideas: K-LS1.C - All animals need food in order to live and grow
- Crosscutting Concepts: Patterns - Patterns in the natural world can be observed and used as evidence

Science Vocabulary

* Predator: An animal that hunts and eats other animals
* Prey: An animal that gets eaten by other animals
* Habitat: The place where an animal lives and finds everything it needs
* Adaptation: Special body parts that help animals survive
* Insect: A small animal with six legs and three body parts

External Resources

Children's Books:
- What Do You Do With a Tail Like This? by Steve Jenkins
- Who Eats What? Food Chains and Food Webs by Patricia Lauber
- Geckos by James E. Gerholdt