

Photo Description



A dragonfly sits on a piece of wood. The dragonfly has big blue eyes and clear wings. You can see the patterns on its body and wings very clearly.

Scientific Phenomena

This image represents the Anchoring Phenomenon of insect adaptation and survival strategies. The dragonfly is demonstrating how insects use their specialized body parts to survive in their environment. The large compound eyes help it see prey and predators from many directions at once, while its wings allow for precise flight control. The dragonfly is resting on the wood surface, which is a common behavior that helps conserve energy between hunting flights.

Core Science Concepts

1. **Animal Body Parts and Functions:** Dragonflies have special body parts that help them survive, including large eyes for seeing, strong wings for flying, and long bodies for balance.
2. **Insect Life Cycles:** Dragonflies go through different stages of life, starting in water as babies (nymphs) and then becoming flying adults.
3. **Habitat Requirements:** Dragonflies need both water and land areas to complete their life cycle and find food.
4. **Predator-Prey Relationships:** Dragonflies are both predators (they eat mosquitoes and other small insects) and prey (birds and spiders eat them).

Pedagogical Tip:

Use hand lenses or magnifying glasses to help students observe insect body parts more closely. This builds observation skills while making the tiny details more accessible to young learners.

UDL Suggestions:

Provide multiple ways for students to share observations - through drawing, verbal descriptions, or acting out dragonfly movements. This supports different learning styles and communication preferences.

Zoom In / Zoom Out

1. **Zoom In:** The dragonfly's compound eyes contain thousands of tiny lenses called ommatidia that each capture a small piece of the visual picture. These work together like a mosaic to create a wide field of vision that helps detect movement.

2. Zoom Out: Dragonflies are important parts of freshwater ecosystems, controlling mosquito populations and serving as indicators of healthy wetland environments. Their presence often signals clean water and balanced ecosystems.

Discussion Questions

1. What body parts help this dragonfly survive in its environment? (Bloom's: Analyze | DOK: 2)
2. How might a dragonfly's large eyes help it find food? (Bloom's: Apply | DOK: 2)
3. Why do you think dragonflies need to live near water? (Bloom's: Evaluate | DOK: 3)
4. What would happen to mosquitoes if there were no dragonflies? (Bloom's: Synthesize | DOK: 3)

Potential Student Misconceptions

1. Misconception: "All insects are bad or scary."
Clarification: Many insects like dragonflies are helpful because they eat pests like mosquitoes that bother people.
2. Misconception: "Dragonflies can sting or bite people."
Clarification: Dragonflies cannot sting and rarely bite humans. They are harmless and actually beneficial to have around.
3. Misconception: "Insects don't need water."
Clarification: Many insects, including dragonflies, need water for part of their life cycle and live near ponds, streams, or wetlands.

NGSS Connections

- Performance Expectation: 2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.
- Disciplinary Core Ideas: 2-LS4.A - Biological Evolution: Unity and Diversity
- Crosscutting Concepts: Structure and Function

Science Vocabulary

- * Compound Eyes: Special eyes made of many tiny parts that help see in all directions
- * Predator: An animal that hunts and eats other animals
- * Habitat: The place where an animal lives and finds everything it needs
- * Nymph: A young dragonfly that lives in water before it grows wings
- * Adaptation: A special body part or behavior that helps an animal survive

External Resources

Children's Books:

- Dragonfly by Emery Bernhard
- Are You a Dragonfly? by Judy Allen
- Dragonflies by Gail Gibbons

YouTube Videos:

- "Dragonfly Life Cycle for Kids" - Simple explanation of how dragonflies grow and change: <https://www.youtube.com/watch?v=6tQp2GqCU7w>

- "Amazing Dragonfly Facts for Children" - Kid-friendly facts about dragonfly superpowers: <https://www.youtube.com/watch?v=iJJ8YrGNxuI>