Centipede

Life Science | Lesson Guide

Kindergarten

Photo Description

This is a centipede—a long, brown creature with many legs running along its body. The centipede has a rounded head at the top and a curved tail at the bottom. Its body is made up of many sections that look like rings stacked together, and each section has legs attached to it.

Scientific Phenomena

Anchoring Phenomenon: Why does a centipede have so many legs?

Centipedes have many legs because their bodies are divided into segments, and each segment has a pair of legs. This body design helps centipedes move quickly across the ground to hunt for food and escape from danger. Each leg works together with the others in a wave-like pattern, allowing the centipede to move smoothly and efficiently through soil, leaf litter, and dark spaces where they live.

Core Science Concepts

* Body Structure and Function: Centipedes have segmented bodies with multiple legs. Each segment serves as a unit, and the legs help the centipede move, find food, and survive in its environment.

* Adaptation: The centipede's many legs are an adaptation—a special body feature that helps it survive. Fast movement helps centipedes hunt small insects and avoid predators.

* Habitat and Behavior: Centipedes live in dark, damp places like under logs, rocks, and in soil. They are predators that hunt at night for food.

* Life Cycles: Centipedes grow by shedding their outer skin (exoskeleton) and adding more segments and legs as they get bigger.

Pedagogical Tip:

For Kindergarteners, focus on the observable feature: "How many legs can you count?" Rather than discussing complex anatomy, use tactile comparisons (e.g., "Your legs help you run; a centipede's many legs help it run even faster!"). Use a call-and-response chant like "Centipede, centipede, walking so fast / With all of those legs, it goes zoom, zoom, past!" to reinforce the concept through movement and rhythm.

UDL Suggestions:

Multiple Means of Representation: Provide picture cards, real plastic centipede models, and live-action videos so students with different learning preferences can engage. Multiple Means of Action & Expression: Allow students to show understanding through drawing, acting out centipede movements, or arranging objects in a line. Multiple Means of Engagement: Use the "gross factor" (many legs!) and sensory experiences to hook interest, but always maintain a respectful, curious tone about all creatures.

Discussion Questions

1. What do you notice about the centipede's body? (Bloom's: Remember | DOK: 1)
2. Why do you think a centipede needs so many legs instead of just two or four like we have? (Bloom's: Analyze | DOK: 2)
3. Where do you think a centipede likes to live, and why might all those legs help it there? (Bloom's: Comprehend | DOK: 2)
4. If you had to move like a centipede, how would your body move differently? (Bloom's: Create | DOK: 3)

Extension Activities

1. Centipede Movement Relay: Mark a start and finish line in the classroom or gym. Have students move like a centipede by crawling on hands and feet while keeping their bodies low and moving in a wave-like pattern. Emphasize teamwork: "Can we move like a centipede together?" This builds gross motor skills and reinforces how multiple legs work as a team.

2. Leg Counting and Craft: Provide paper, markers, and pre-cut paper legs. Students create their own centipede by gluing legs onto a paper body segment. As they glue, count the legs together: "One leg, two legs, three legs..." This integrates fine motor practice, counting, and artistic expression while reinforcing the concept of many body segments.

3. Damp Habitat Exploration: Create a sensory bin with damp soil, leaf litter, rocks, and safe decomposing wood pieces (no real centipedes). Students explore with hands or tools, discussing where centipedes hide and why they like dark, damp places. This connects structure and function to real-world habitat needs.

NGSS Connections

Performance Expectation (Kindergarten):
K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.

Disciplinary Core Ideas:
* K-LS1.A - All organisms have structures that serve different functions in growth, survival, and reproduction.

Crosscutting Concepts:
* Structure and Function - The centipede's leg structure allows it to move quickly.
* Patterns - The pattern of many segments and legs repeating along the body.

Science Vocabulary

* Centipede: A long bug with many legs that hunts for food in dark, damp places.

* Segment: One of the ring-shaped parts that makes up a centipede's body.

* Legs: Body parts that animals use to walk, run, and move around.

* Predator: An animal that hunts other animals for food.

* Exoskeleton: A hard, shell-like skin on the outside of the centipede's body that protects it.

* Adaptation: A special body part or behavior that helps an animal survive in its home.

External Resources

Children's Books:

Centipede's 100 Shoes* by Tony Ross – A humorous, engaging story about a centipede's many feet (accessible picture book for K).

The Very Busy Spider* by Eric Carle – While not centipede-specific, it introduces insects and body parts in Carle's signature tactile style.

Creepy Crawly Creatures* by Gianna Marino – A simple board book exploring various insects and their features.

YouTube Videos:

* "Centipede vs. Millipede: What's the Difference?" by National Geographic Kids – A 3-minute animated comparison with clear visuals. https://www.youtube.com/watch?v=K6m40rRWHfY
* "Amazing Centipede Facts for Kids" by Homeschool Pop – A 4-minute sing-along that covers basic centipede facts in rhythm and rhyme, perfect for Kindergarten. https://www.youtube.com/watch?v=vrVZvU6k6uo