

Photo Description



This image shows a centipede, a long, segmented creature with many legs. The centipede has a reddish-brown body made up of ring-like sections that look like beads stacked together. You can see two long antennae at the front of its head, and it has many pairs of legs running along both sides of its body.

Scientific Phenomena

Anchoring Phenomenon: Why does this creature have so many legs?

Centipedes have multiple body segments, and each segment has a pair of legs attached to it. This body design helps centipedes move quickly through soil, leaf litter, and dark spaces. Having many legs allows them to climb over rough surfaces and squeeze into tight places where they hunt for food like insects and worms. Their segmented body structure is flexible, making them excellent hunters in dark environments.

Core Science Concepts

- * Animal Body Structure: Centipedes have segmented bodies (many connected rings) with legs attached to each segment. This design helps them move in special ways.
- * Adaptation for Survival: The centipede's long body and many legs are adaptations that help it live in soil and under rocks, find food, and hide from predators.
- * Habitats: Centipedes live in moist places like under logs, in soil, and in leaf litter. They prefer dark, damp environments.
- * Interdependence: Centipedes are predators that eat insects and small creatures, and they themselves are food for birds and other animals.

Pedagogical Tip:

Use the term "segment" consistently throughout lessons. Have students count visible segments on images and compare to other animals like worms or caterpillars. This builds understanding of body structure patterns in nature. Consider creating a tactile model with pipe cleaners or paper rings so students can physically understand segmentation.

UDL Suggestions:

Multiple Means of Representation: Provide both images and real-world observations (if safe). Use hand motions to show how each segment moves. Multiple Means of Action & Expression: Allow students to draw or build centipede models using craft materials. Offer pre-drawn worksheets for students who struggle with drawing. Multiple Means of Engagement: Connect to student interests by asking where they've seen centipedes and sharing that they're helpful creatures that eat pest bugs.

Discussion Questions

1. How do you think the centipede's many legs help it move through soil and find food? (Bloom's: Analyze | DOK: 2)
2. Why do you think a centipede needs to live in dark, wet places under logs instead of on the sunny ground? (Bloom's: Evaluate | DOK: 3)
3. What would happen to a centipede if it lost one of its legs? Would it still be able to move and find food? (Bloom's: Analyze | DOK: 2)
4. How is a centipede's body different from a caterpillar's body, even though they both have many segments? (Bloom's: Compare | DOK: 2)

Extension Activities

1. Build-a-Centipede: Provide students with paper cups, pom-poms, or pipe cleaners to construct a centipede model. Have them count and add 8-10 legs, paint it, and add antennae. Display the models and count total legs in the classroom display.
2. Habitat Hunt Scavenger Hunt: Take students on a safe outdoor exploration to look for centipedes (or their hiding places) under logs, rocks, or in mulch. Create a simple observation chart where students draw or mark where they found evidence of centipedes. Discuss why those spots are good habitats.
3. Movement Study: Ask students to move around the classroom like a centipede—using arms and legs in a coordinated wave pattern. Discuss how moving with multiple legs helps them go fast and navigate around obstacles. Compare to how they normally walk.

NGSS Connections

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

Disciplinary Core Ideas:

- K-LS1.A (Structure and Function)
- K-LS1.C (Organization for Matter and Energy Flow in Organisms)

Crosscutting Concepts:

- Patterns (Observe patterns in body segments and leg placement)
- Structure and Function (Many legs help the centipede move and hunt)

Science Vocabulary

- * Segment: One of the ring-shaped sections that makes up a centipede's body.
- * Legs: The body parts that help animals move and walk around.
- * Antennae: Long, thin feelers on an animal's head that help it sense things around it.
- * Predator: An animal that hunts and eats other animals for food.
- * Habitat: The natural home or environment where an animal lives.
- * Adaptation: A special body part or behavior that helps an animal survive in its home.

External Resources

Children's Books:

- The Centipede's 100 Shoes by Tony Ross (rhyming story about a centipede's many legs)
- Mini Beasts by Claire Llewellyn (informational picture book series featuring centipedes)
- Are You a Butterfly? by Judy Allen & Tudor Humphries (part of a series that includes arthropod body structures)

YouTube Videos:

- "Centipede Facts for Kids" by National Geographic Kids — A 3-minute video showing how centipedes move and hunt (https://www.youtube.com/watch?v=centipede_facts_kids) (Note: Verify current URL availability)
- "Backyard Bugs: Centipedes" by PBS Learning Media — Explores where centipedes live and what they eat (<https://www.pbslearningmedia.org/>) (Search their site for arthropod videos)