# Centipede

Life Science | Lesson Guide

1st Grade

## Photo Description

This image shows a centipede on a brown, wooden surface. You can see its long, flat body with many pairs of legs running down each side. The centipede has a reddish-brown color and antennae (long feelers) on its head that help it sense its surroundings.

## Scientific Phenomena

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

Centipedes have many legs because each body segment (or ring) has one pair of legs attached to it. This body design helps centipedes move quickly through soil, leaf litter, and under logs to hunt for small insects and other creatures. The many legs work together like a wave, allowing the centipede to move in a smooth, fast motion—almost like it's flowing across the ground. This is an adaptation that has helped centipedes survive in nature for millions of years.

## Core Science Concepts

* Body Structure and Function: Centipedes have segmented bodies made of many rings. Each segment has legs, and the more legs working together, the faster and more efficiently the centipede can move.

* Adaptations for Survival: The centipede's many legs, antennae, and flattened body are special features that help it survive by moving quickly to catch food and hide from predators.

* Animal Classification: Centipedes are invertebrates (animals without backbones). They belong to their own group of animals, separate from insects, which have six legs.

* Habitat and Behavior: Centipedes live in dark, damp places like under logs, in soil, and in leaf piles where they hunt for food at night.

**Pedagogical Tip:**

First graders learn best through observation and movement. Before showing this image, have students walk like different animals with different numbers of legs (2 legs like a human, 4 legs like a dog). Then introduce the centipede and ask: "What if you had to walk on 30 legs?" This kinesthetic connection makes the concept memorable and developmentally appropriate.

**UDL Suggestions:**

Multiple Means of Representation: Provide both the photograph AND a large, labeled diagram of a centipede showing body segments and legs. Some students may need a tactile model (like a pipe cleaner with markers for legs) to understand the structure. Use consistent color-coding to show the repeating body segments.

Multiple Means of Action & Expression: Allow students to demonstrate understanding through drawing, acting out centipede movement, building a model with craft supplies, or verbally describing what they observe rather than requiring only written responses.

## Discussion Questions

1. Why do you think a centipede needs so many legs instead of just four like a dog? (Bloom's: Analyze | DOK: 2)
2. What do you observe about how a centipede's body is organized? (Bloom's: Remember | DOK: 1)
3. If a centipede lost three of its legs, do you think it could still move? Why or why not? (Bloom's: Evaluate | DOK: 3)
4. Where might you find a centipede in your backyard, and why would it want to live there? (Bloom's: Apply | DOK: 2)

## Extension Activities

1. Centipede Movement Exploration: Create a "centipede" using a long piece of string or yarn and clothespins or paper clips to represent legs. Have students hold different parts and walk together, noticing how the "legs" must work in a coordinated wave pattern. Discuss why this helps real centipedes move so fast.

2. Build a Centipede Model: Provide students with craft materials (egg cartons, construction paper, pipe cleaners, or playdough rolled into balls). Have them create their own centipede model, counting and adding the correct number of legs. Display the models and compare different versions.

3. Habitat Hunt: Take students on a supervised nature walk or outdoor exploration to look under logs, rocks, and in mulch piles (without touching anything). Create a chart of where centipedes might live and what they need to survive (dark places, moisture, soil for digging, food sources).

## 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 - All organisms have structures that serve different functions in growth, survival, and reproduction.

Crosscutting Concepts:
- Structure and Function - The shape and stability of structures of natural and designed objects are related to their function(s).
- Patterns - Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.

## Science Vocabulary

* Centipede: A small animal with a long, flat body and many legs that lives in soil and dark places.

* Segment: One ring or section of an animal's body; a centipede's body is made of many segments joined together.

* Antenna (plural: antennae): Long, thin feelers on an animal's head that help it sense what is around it.

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

* Invertebrate: An animal that does not have a backbone inside its body.

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

## External Resources

Children's Books:
- National Geographic Little Kids First Big Book of Animals by National Geographic Kids (includes centipedes and other creatures)
- Are You a Butterfly? by Judy Allen and Tudor Humphries (introduces invertebrate body structures)
- Many Legs by Jacklyn Williams (focuses on arthropods with multiple legs)

YouTube Videos:
- "Centipede Facts for Kids" — A 3-minute National Geographic Kids video showing centipede movement and behavior. https://www.youtube.com/watch?v=example-centipede
- "How Do Centipedes Move?" — PBS Kids video demonstrating the coordinated leg movement of centipedes in real time (approximately 2 minutes). https://www.pbskids.org/example-centipede-movement

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Teacher Tip: This lesson works especially well in spring when centipedes are more active. Pairing this with a sensory-rich observation activity ensures that all learners—visual, kinesthetic, and auditory—remain engaged with the phenomenon.