

# Centipede Lesson Plan

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## Summary

In this episode of Sketch and Coffee Live, Blade sketched a centipede figurine while talking about their evolutionary history, classification, and role in ecosystems. The discussion covered the meaning of their scientific names, their presence in the fossil record, how little they have changed in hundreds of millions of years, their worldwide distribution, and their habitats. He also explained the ancient origins of human fear of multi-legged predators, their use in popular culture, their role as helpful pest hunters, and how multiple centipedes in a home can be a warning sign.

Full episode link: [https://www.youtube.com/live/pmKOW5PXffQ?si=\\_M7C5\\_a52ahm7GeL](https://www.youtube.com/live/pmKOW5PXffQ?si=_M7C5_a52ahm7GeL)

## Objective

Students will learn about the biology, history, and ecological role of centipedes, including their classification, ancient origins, habitats, and their relationships with humans.

## Standards

- NGSS MS-LS4-1: Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout Earth's history.
- CCSS.ELA-LITERACY.RST.6-8.1: Cite specific textual evidence to support analysis of science and technical texts.
- C3 Framework D2.Geo.5.6-8: Evaluate how human and environmental characteristics influence population distribution and settlement.

## Materials

- 9 Fun Facts (provided)
- Worksheet (provided)
- Optional: images of centipedes, videos of centipedes moving

## Introduction

Introduce centipedes as arthropods with long segmented bodies and many legs. Explain the origin of their class name Chilopoda, meaning “lip-footed,” and their larger group Myriapoda, meaning “countless feet.” Discuss why their appearance is unsettling and why people often fear them, even though they are beneficial.

## Activity

1. Read and discuss the 9 Fun Facts as a group.
2. Show optional images or videos to observe body structure and leg movement.
3. Have students complete the worksheet to reinforce key facts.
4. Discuss how centipedes have survived for hundreds of millions of years with little change.

## Assessment

Students will show understanding by answering worksheet questions, engaging in discussion, and demonstrating comprehension of centipede biology and cultural significance.

### Rubric

Criteria	Excellent (5)	Good (3)	Needs Improvement (1)
Understanding Facts	Accurately explains all 9 Fun Facts	Explains most Fun Facts with some errors	Struggles to explain Fun Facts
Participation	Engages fully in discussion and activity	Participates but limited contribution	Rarely participates
Worksheet Completion	All questions complete and correct	Most questions complete and mostly correct	Few questions answered or incorrect

## 9 Fun Facts

**1. Centipedes echo a body plan from the Cambrian Explosion.** Centipedes show traits like segmented bodies and jointed legs that first appeared more than 500 million years ago during the Cambrian period. This ancient design has remained effective across evolutionary history and continues to work well for these predators today.

<https://www.amnh.org/explore/news-blogs/news-posts/the-cambrian-explosion>

**2. Centipedes are living fossils.** The fossil record shows centipedes appearing about 430 million years ago in the Silurian, already looking much like modern forms. One extinct relative, Arthropleura, reached more than 8 feet long, making it one of the largest arthropods to ever walk the earth. Today, the largest living centipede is Scolopendra gigantea, the Amazonian giant centipede, which can grow close to a foot long but retains the same basic body plan.

<https://www.livescience.com/giant-ancient-millipedes-uk>

**3. Centipedes live worldwide except Antarctica.** Centipedes have successfully colonized nearly every kind of terrestrial habitat including deserts, forests, grasslands, and caves. They are found on every continent except Antarctica, where extreme cold and lack of soil life prevent them from surviving. This broad distribution shows how adaptable they are to different environments.

<https://a-z-animals.com/animals/centipede/>

**4. Centipedes are diverse and successful.** More than 3,300 species of centipedes have been described, with total estimates approaching 8,000 worldwide. Female centipedes typically lay between 15 and 60 eggs each year, and even though they are preyed upon by birds, reptiles, amphibians, and mammals, their numbers remain strong. Their ability to reproduce steadily and adapt to various habitats has kept them thriving for hundreds of millions of years.

[https://fox-pest.com/pest-](https://fox-pest.com/pest-files/centipedes/#:~:text=Centipedes%20have%20been%20scuttling%20around,land%2C%20making%20them%20living%20fossils.)

[files/centipedes/#:~:text=Centipedes%20have%20been%20scuttling%20around,land%2C%20making%20them%20living%20fossils.](https://fox-pest.com/pest-files/centipedes/#:~:text=Centipedes%20have%20been%20scuttling%20around,land%2C%20making%20them%20living%20fossils.)

**5. Centipedes thrive in damp habitats.** Outdoors they live under rocks, logs, leaf litter, and in soil. Indoors they are commonly found in damp places like basements, bathrooms, and crawlspaces. They seek out warm, moist environments that provide cover and plenty of insects to eat. Their choice of habitat explains why they often surprise people in dark corners of houses.

<https://www.orkin.com/pests/centipedes/where-do-centipedes-live>

**6. Centipede movements trigger ancient instincts.** Their many legs moving in waves across the ground unsettle almost everyone. Psychologists suggest this reaction may be an evolutionary reflex that developed when early vertebrates lived alongside large arthropods. Fast multi-legged predators once posed a real danger, and our nervous systems may still carry a sensitivity to this movement today.

<https://www.mentalfloss.com/article/630000/why-do-humans-fear-bugs>

**7. Centipedes are popular in culture.** They appear regularly in horror movies, are used in Indiana Jones scenes to increase tension, and are villains in video games like Centipede and Resident Evil. Their alien appearance and quick, unsettling motion make them a natural choice for entertainment designed to scare audiences.

<https://tvtropes.org/pmwiki/pmwiki.php/Main/CreepyCentipedes>

**8. Centipedes are beneficial predators.** Centipedes feed on cockroaches, termites, silverfish, and other insects that humans consider pests. Unlike cockroaches and flies, they do not spread diseases and rarely bite people. They play a positive role in keeping insect populations under control both outdoors and in homes.

<https://extension.psu.edu/house-centipedes>

**9. Many centipedes indoors may mean problems.** Seeing one or two centipedes in the house is common, since they wander in or follow prey. Finding many of them, however, usually points to too much moisture indoors or a hidden infestation of other insects. In that way, centipedes serve as a natural warning sign for homeowners.

<https://www.thespruce.com/why-centipedes-keep-showing-up-in-your-house-11783162>

## Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Review

1. What does the name Chilopoda mean?
2. How many centipede species have been described?

### Discussion

3. Why might people have an instinctive fear of centipedes?
4. How are centipedes shown in popular culture?

### Data Analysis

5. If a female centipede lays 50 eggs each year and half survive, how many could she produce in three years?
6. Compare the size of *Arthropleura* to *Scolopendra gigantea*. What does this tell you about evolutionary change?

### Reflection

7. How can centipedes be helpful in homes?
8. What might it mean if you see many centipedes indoors?