

Photo Description



This image shows a dark-colored spider sitting on brown, rocky soil. You can see the spider's eight long, thin legs spread out around its body, and its small, round body in the middle. Spiders are animals that live in many different places, like gardens, fields, and even near our homes.

Scientific Phenomena

Anchoring Phenomenon: Why does a spider have eight legs?

Spiders are arachnids, a special group of animals that all have exactly eight legs. This body structure helps spiders move quickly across different surfaces—soil, rocks, plants, and webs. Each leg has tiny claws and special joints that allow spiders to grip surfaces and hunt for food. Unlike insects (which have six legs), spiders' eight-legged body plan is an adaptation that makes them excellent hunters and survivors in their environments.

Core Science Concepts

- * **Animals Have Body Parts:** Spiders have legs, a body, and eyes. Each body part helps them survive and move.
- * **Living Things Live in Different Places (Habitats):** This spider lives on the ground where it can hunt for insects. Different animals need different homes.
- * **Animals Move in Different Ways:** Spiders use their eight legs to walk, run, and climb. Their legs help them catch food and escape from danger.
- * **Spiders Are Different from Insects:** Spiders have eight legs; insects have six legs. This is one way we can tell them apart.

Pedagogical Tip:

For Kindergarteners, use the "8 Legs" chant: Have students hold up their fingers and count to eight while saying "Spiders have 1, 2, 3, 4, 5, 6, 7, 8 legs!" This multisensory approach (movement + counting + rhythm) helps young learners remember the key distinguishing feature of spiders in a developmentally appropriate way.

UDL Suggestions:

Representation: Provide large, clear images of spiders with legs labeled and color-coded. Create a tactile spider model using pipe cleaners so students can manipulate and explore the eight-leg structure with their hands. This supports learners who benefit from kinesthetic and visual input.

Zoom In / Zoom Out

Zoom In: Spider Legs Up Close

If we could look at a spider's leg through a super powerful magnifying glass, we would see tiny hairs all over it! These hairs help the spider feel the ground, sense vibrations (like when an insect walks nearby), and grip surfaces. Some spiders even have tiny claws on the tips of their legs, like little hooks. These special details are so small we can't see them with just our eyes, but they help the spider hunt and survive.

Zoom Out: Spiders in the Food Web

This spider is part of a much bigger system called a food web. The spider eats insects like flies and mosquitoes. Bigger animals like birds, lizards, and wasps might eat the spider! By eating insects, spiders help keep nature balanced. If there were no spiders, there would be too many bugs. If there were no insects, spiders would have no food. Everything in nature is connected, and this spider plays an important job in its outdoor home.

Discussion Questions

- * What body parts does this spider have, and how do they help it live? (Bloom's: Understand | DOK: 1)
- * Why do you think the spider has eight legs instead of four or two? (Bloom's: Analyze | DOK: 2)
- * Where do spiders like this one live, and what do they need to find there? (Bloom's: Understand | DOK: 1)
- * How is a spider different from an insect or a butterfly you've seen? (Bloom's: Compare | DOK: 2)

Potential Student Misconceptions

Misconception 1: "Spiders are insects."

Clarification: Spiders are NOT insects! Insects have six legs, but spiders have eight legs. Spiders are called arachnids, which is a different group of animals. Just like dogs and cats are both animals but different from each other, spiders and insects are both animals but different groups. Use the "8 Legs" chant to reinforce this difference repeatedly.

Misconception 2: "All spiders are dangerous and will bite me."

Clarification: Most spiders are shy and helpful! They don't want to hurt people—they want to eat insects. Spiders are afraid of us and usually run away. They only bite if they feel scared or trapped, and most spider bites don't hurt people. Spiders are like tiny gardeners that help keep our world healthy by eating pesky bugs.

Misconception 3: "Spiders live only in webs."

Clarification: Not all spiders make webs! Some spiders, like the one in this photo, live on the ground and hunt by walking and running to catch insects. Other spiders hide under rocks or in plants. Some spiders jump to catch food. Webs are just one home that some spiders make—many spiders are hunters that don't use webs at all!

Extension Activities

1. Spider Leg Movement Exploration: Give students eight pipe cleaners (or yarn pieces) and have them create a spider model. Students can move the legs in different ways to see how spiders might walk, climb, and turn. Ask: "How many ways can your spider's legs move?"
2. Spider Hunt Walk: Take students on a safe, supervised outdoor walk to look for spiders in gardens, under rocks, or on plants (do not touch). Have them draw or paint the spiders they observe and compare the leg structures. Create a classroom chart: "Spiders We Found."
3. Eight Legs Sorting Game: Provide picture cards of various animals (spiders, insects, animals with four legs, etc.). Have students sort them into categories: "8 Legs" and "Not 8 Legs." This reinforces the defining characteristic of spiders.

Cross-Curricular Ideas

Math Connection: Counting & Comparison

Use spiders to practice counting and number comparisons. Create activities like: "A spider has 8 legs. A butterfly has 6 legs. How many more legs does the spider have?" Use manipulatives (blocks, counters) to show the difference. Create a chart showing "Animals with 8 Legs," "Animals with 6 Legs," and "Animals with 4 Legs" with pictures for sorting and counting practice.

ELA Connection: Spider Stories & Descriptive Language

Read *The Very Busy Spider* by Eric Carle and discuss the spider's actions using action words (verbs). Have students create their own "busy spider" sentences: "The spider crawls," "The spider climbs," "The spider hunts." Create a classroom book where each student draws a spider doing something and dictates or writes a sentence. Practice rhyming with spider words: spider/wider, legs/pegs, webs/threads.

Art Connection: Spider Art Exploration

Students can create spiders using various art materials: pipe cleaners for legs, pom-poms for bodies, painted rocks, clay, or collage. Display these "spiders" on a large bulletin board garden. Students can also paint or draw spiders in their habitats (under rocks, on plants, on the ground). Create a 3D spider web using string in the classroom window—a tactile way to explore spider homes while creating art.

Social Studies Connection: Spiders Around the World

Introduce the idea that spiders live in many different places around the world! Show pictures of spiders from different countries and habitats (deserts, rainforests, gardens, homes). Discuss how people in different places might see spiders. Create a simple map showing "Where Spiders Live" with pictures pinned to different continents. This builds geography awareness and shows that animals live in many different homes.

STEM Career Connection

Arachnologist (Spider Scientist)

An arachnologist is a scientist who studies spiders! These scientists observe spiders, learn about how they hunt and live, and discover new types of spiders. They might work outside catching spiders in nets to study them, or in a lab looking at spiders through microscopes. Arachnologists help us understand why spiders are helpful and important. Average Salary: \$65,000–\$75,000 per year

Entomologist (Bug & Spider Expert)

An entomologist is a scientist who studies insects AND spiders. They learn about all the tiny animals like beetles, butterflies, and spiders. Some entomologists work to stop bad bugs from hurting plants and gardens, while others just study how bugs and spiders live. Average Salary: \$68,000–\$78,000 per year

Nature Photographer

A nature photographer takes pictures of animals and plants in the wild, including spiders! They go outside with special cameras to photograph spiders in their homes, on webs, and hunting. These photos help scientists and children learn about spiders. Nature photographers need to be very patient and quiet so the spiders don't run away. Average Salary: \$50,000–\$70,000 per year

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
- Patterns

Science Vocabulary

- * Spider: A small animal with eight legs that hunts insects and spins webs.
- * Arachnid: The special name for spiders and animals like scorpions that have eight legs.
- * Legs: Body parts that animals use to move and walk from place to place.
- * Habitat: The place where an animal lives and finds food and water.
- * Predator: An animal that hunts and eats other animals for food.

External Resources

Children's Books:

- The Very Busy Spider by Eric Carle
- Miss Spider's Tea Party by David Kirk
- Spiders by Gail Gibbons

Teacher's Note: This lesson connects to the real world by using a photograph of an actual spider in its natural habitat. Kindergarteners learn best through observation, movement, and hands-on exploration. Emphasize wonder and observation over fear, as many children may have anxiety about spiders. Frame spiders as helpful animals that eat pesky insects!