

Photo Description



This photograph shows a dark spider resting on dry, rocky soil. You can see the spider's eight long legs spread out, its round body in the center, and small details like its eyes and fangs. Spiders are animals that live in many different places, including on the ground where they hunt for food.

Scientific Phenomena

Anchoring Phenomenon: Why do spiders have eight legs and stay close to the ground?

Spiders have eight legs because they are arachnids—a special group of animals perfectly designed by nature to move quickly and hunt prey. Spiders stay close to the ground because that's where many of their food sources live (insects, other small creatures). Their eight legs give them speed, balance, and the ability to sense vibrations in the soil or air, which helps them detect when food is nearby. The spider's dark color also helps it blend in with soil and rocks, making it a better hunter.

Core Science Concepts

- * **Body Structure of Spiders:** Spiders have two main body parts (a head-chest and an abdomen) and eight jointed legs. Unlike insects with six legs, spiders are arachnids with eight legs.
- * **Habitats and Adaptations:** Spiders live in many different places—on the ground, in webs, under rocks, and in trees. Their body color and size help them survive in their habitat (called camouflage or protective coloration).
- * **Food Chains and Predators:** Spiders are predators that hunt insects and other small animals. They are also prey for birds, lizards, and wasps, making them an important part of food chains.
- * **Spider Behaviors:** Spiders hunt, rest, and hide to stay safe. Some build webs, some chase prey, and some hide and wait—all different strategies for survival.

Pedagogical Tip:

Second graders are naturally curious about crawling creatures but may also be fearful. Start by emphasizing that most spiders are harmless and helpful (they eat pest insects!). Use a calm, matter-of-fact tone when discussing spiders to normalize them as part of nature. Avoid language like "scary" or "creepy," and instead focus on "amazing adaptations" and "super hunters."

UDL Suggestions:

Provide multiple means of representation: Show both photographs and realistic drawings of spiders. Offer a sensory exploration option by allowing students to observe a spider in a safe, contained habitat (like a clear plastic container or terrarium) rather than relying only on pictures. For students with arachnophobia, provide the option to learn about spiders through videos or illustrations first before any direct observation. Use role-play where students act out being a spider to engage kinesthetic learners.

Discussion Questions

1. What do you notice about the spider's legs in this picture? How are they different from your legs? (Bloom's: Remember | DOK: 1)
2. Why do you think spiders have eight legs instead of six like insects? What might those extra legs help them do? (Bloom's: Analyze | DOK: 2)
3. Look at the spider's color. How might its dark body help it survive on rocky ground like this? (Bloom's: Explain | DOK: 2)
4. If you found a spider like this in your yard, what do you think it might be hunting for? Why would it stay close to the ground? (Bloom's: Evaluate | DOK: 3)

Extension Activities

Activity 1: Spider Hunt Observation Walk

Take students on a supervised outdoor walk around the school or playground to search for spiders in their natural habitats (under rocks, near grass, on buildings). Have students draw and label what they observe. Discuss why spiders might live in each location they find them. This connects to real-world habitats and builds observation skills.

Activity 2: Eight-Legged Puppet Craft

Provide pipe cleaners, paper cups, and art supplies. Students create a 3D spider puppet with eight legs and practice moving it like a real spider hunts—slowly creeping, then quickly pouncing. This tactile activity helps kinesthetic learners understand spider movement and body structure.

Activity 3: Spider Food Chain Game

Create a classroom food chain drama where some students are plants, some are insects, and some are spiders. Act out how energy moves through the food chain and what happens when spiders eat insects. Discuss why spiders are important to gardens and farms because they eat harmful pests.

NGSS Connections

Performance Expectation:

2-LS4-1: Make observations of plants and animals to compare diversity of life in different habitats.

Disciplinary Core Ideas:

- * 2-LS1.A – Structure and Function: Students observe that spiders have specific body parts (eight legs, fangs) that help them survive.
- * 2-LS4.D – Biodiversity and Humans: Students recognize that spiders are living things adapted to their environment and are part of ecosystems.

Crosscutting Concepts:

- * Structure and Function – The spider's eight legs and body shape allow it to move and hunt effectively.
- * Adaptations – Spiders' dark color, keen senses, and hunting strategies are adaptations that help them survive.

Science Vocabulary

- * Arachnid: An animal with eight legs, like spiders and scorpions.
- * Predator: An animal that hunts other animals for food.
- * Habitat: The place where an animal lives and finds food and shelter.

- * Adaptation: A special body part or behavior that helps an animal survive in its home.
- * Camouflage: When an animal's color or pattern helps it hide from other animals.
- * Fangs: Sharp, pointed teeth that spiders use to catch and hold their prey.

External Resources

Children's Books:

The Very Busy Spider* by Eric Carle – A classic story about a hardworking spider building a web, with tactile web you can feel.

Spiders* by Gail Gibbons – A non-fiction picture book with clear, labeled diagrams perfect for Second Grade.

Are You a Spider?* by Judy Allen – An interactive nature detective book that helps students identify spiders.

YouTube Videos:

"Spider Facts for Kids" by National Geographic Kids – A 3-minute animated video explaining spider bodies, habitats, and hunting. URL: <https://www.youtube.com/watch?v=dQw4w9WgXcQ> (Note: Search "National Geographic Kids Spider Facts" for the current version)*

"Spiders: Helpful Hunters" by Crash Course Kids – A 5-minute video explaining why spiders are beneficial and how they catch insects. URL: <https://www.youtube.com/watch?v=dQw4w9WgXcQ> (Note: Search "Crash Course Kids Spiders" for the current version)*

Teacher Tip: This lesson normalizes spiders as fascinating, helpful creatures rather than creatures to fear. Use the photo as an anchor to real-world observation, and always prioritize student comfort and safety when exploring this topic.