

Photo Description



This black and white photograph shows a delicate spider web covered in tiny water droplets that make it sparkle and shine. The web is stretched between green leaves and plants, creating a perfect geometric pattern with lines that go round and round from the center outward, like a beautiful spiral or target. You can see the web is sticky and strong, even though it looks thin and feathery.

Scientific Phenomena

Anchoring Phenomenon: How did the spider make this sticky web, and why does it catch bugs?

Spiders spin webs using silk that comes from their bodies—a special material that is stronger than steel but very thin and light. The web is sticky because of the way the spider designs it, with some parts dry and some parts gooey. When insects fly into the web, they get stuck, and then the spider can catch them for food. The water droplets in this photo show us the web is really there—we can see each tiny dewdrop hanging on the silk strands. This demonstrates that living things (spiders) build structures in nature to help them survive and get food.

Core Science Concepts

- * **Animal Structures and Functions:** Spiders have special body parts (called spinnerets) that make silk. The web is a structure that the spider builds to catch food and helps the spider survive.
- * **Adaptation and Survival:** A spider web is an adaptation—a special feature that helps spiders catch insects they need to eat. It shows how animals are designed by nature to do specific jobs.
- * **Patterns in Nature:** Spider webs follow a geometric pattern that repeats—lines going out from the center in a circular design. This pattern is organized and predictable, and it appears the same in many different spider webs.
- * **Properties of Materials:** Spider silk is lightweight, strong, and flexible. The web can stretch and bend without breaking, which helps it catch flying insects without tearing.

Pedagogical Tip:

For Kindergarteners, focus on direct observation and wonder rather than complex explanation. Use phrases like "the spider made this" and "it's sticky so bugs get stuck." Avoid detailed discussion of spider anatomy. Instead, emphasize the visible pattern and the purpose: catching food. Use the web as a jumping-off point for curiosity about how and why animals do things.

UDL Suggestions:

Multiple Means of Representation: Provide real spider web images, tactile models (yarn webs children can touch), and allow students to draw or trace web patterns. **Multiple Means of Action & Expression:** Let students build their own "webs" using yarn, string, or tape on a frame to physically understand the structure. **Multiple Means of Engagement:** Connect to students' own experiences: "Have you seen a web? Where? What did it look like?" This builds personal relevance and excitement.

Discussion Questions

1. What do you see in this picture? What does the web look like to you? (Bloom's: Remember | DOK: 1)
2. Why do you think the spider made this web? What could it be used for? (Bloom's: Infer | DOK: 2)
3. How is a spider web like other things you know about? What is it similar to? (Bloom's: Analyze | DOK: 2)
4. If you were a tiny bug flying through the air, what would happen if you touched this sticky web? Why? (Bloom's: Evaluate | DOK: 3)

Extension Activities

Activity 1: Make a Web with Yarn

Provide students with a square or circular frame (cardboard, hula hoop, or string) and yarn. Students work in pairs or small groups to stretch yarn across the frame in different directions, creating their own "spider web." This builds fine motor skills and helps them understand how a web is constructed. Discuss: "What patterns did you make? Is your web sticky like a real spider web?"

Activity 2: Web Hunt Nature Walk

Take the class on a short nature walk around the school grounds or nearby area to search for real spider webs, especially in early morning when dew makes them visible. Bring magnifying glasses if available. Students observe webs from a safe distance without touching them. Back in class, draw or paint pictures of the webs they found. Ask: "Where did you find your web? Why do you think the spider chose that spot?"

Activity 3: Sensory Web Exploration

Create a large floor or wall web using masking tape or yarn. Blindfold students (or have them close their eyes) and gently guide them to walk or crawl through the web. Ask them to describe what they feel and experience. Discuss how a web might feel to an insect and how it helps the spider know when something is caught. Connect to the idea that spiders sense vibrations in their webs.

NGSS Connections

Relevant 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 Animals have body parts that help them sense the world and help them perform daily functions necessary to survive.
- K-LS1.D All animals have life needs. Animals obtain food from plants or other animals; plants get water from the soil and light from the sun.

Crosscutting Concepts:

- Patterns The web shows a repeating pattern that is organized and beautiful.
- Structure and Function The web's sticky structure allows it to function as a tool for catching food.
- Systems and System Models A spider web is part of a larger system: the spider, the web, the insects it catches, and the plants it hangs from all work together.

Science Vocabulary

- * Spider: A small animal with eight legs that can spin silk to make webs.
- * Web: A net-like structure made of thin, sticky threads that a spider builds to catch insects.
- * Silk: A special, strong, thin material that comes from a spider's body and is used to make webs.
- * Sticky: Something that holds on to other things because it is wet or gooey.
- * Pattern: A design that repeats the same way over and over again.
- * Structure: The way something is built or put together.

External Resources

Children's Books:

- The Very Busy Spider by Eric Carle (classic story about a spider spinning a web, with tactile web to touch)
- Spider and the Fly by Tony DiTerlizzi (beautiful illustrations, engaging narrative)
- Charlotte's Web by E.B. White (advanced for older K students, but excellent read-aloud with pictures)

YouTube Videos:

- "Spider Web Time Lapse - How Spiders Build Webs" (2:30 minutes) — Shows a spider building a web from start to finish in fast motion, helping students visualize the process. Narration is calm and suitable for young children.
URL: <https://www.youtube.com/watch?v=8P9geWKXEAA>
- "National Geographic Kids - Spiders" (3:45 minutes) — Engaging, kid-friendly overview of spider facts with beautiful photography and simple explanations of why spiders make webs and how they live.
URL: <https://www.youtube.com/watch?v=B16kE6i5WpU>

Teacher Note: This lesson emphasizes observable features and wonder, which are developmentally appropriate for Kindergarten. The focus is on what students can see and why it matters for the spider's survival, rather than on complex biological mechanisms. Encourage curiosity, hands-on exploration, and creative thinking throughout.