



LESSON/ACTIVITY

Wonderful world of spiders

Ages 5 - 10 years | Grades K - 5

In this lesson, you will learn:

- Living things are diverse, can be grouped and interact with their ecosystems
- Living things have life cycle adapted to their environment

Spiders! 🕷️ They have been called creepy, crawly and spooky.

They cause many of us to run away in fear, especially when we find one in our house, however spiders are a very important member of our ecosystem. Many people have a natural intense fear of this tiny, eight legged creature which is called Arachnophobia.

Let's learn together about this often misunderstood arachnid.

What role do spiders play in our ecosystem?

What are the different ways spiders move?

Where do spiders live?

What is the material spiderwebs are made of?

What do they eat?

How many species of spiders are there in Canada?

ANATOMY: Did you know that spiders are **not** considered insects. Unlike insects, which have three segmented body parts, pairs of wings and 6 jointed legs; spiders have two body parts (cephalothorax and abdomen) and 8 legs. Spiders do not have antennae, wings, or jaws to chew their food.

Spiders belong to a class called Arachnids which include mites, ticks and scorpions.

The cephalothorax (contains their head, eyes, fangs, and legs). The abdomen contains the spinnerets.

Other notable features include

- An exoskeleton, which is a skeleton that surrounds its body on the outside.
- Short hook-like hairs on their feet which allow them to grip and walk or jump from spot to spot



 Image courtesy of Canva -Orb Weaver



 Image courtesy of Canva

What is the material spiderwebs are made of?

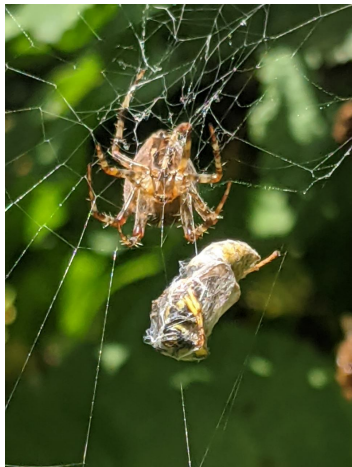
Spider webs are made out of silk. Spiders have spinnerets, an organ located on their abdomen that produces the silk threads to make their webs. The silk is also used for wrapping their prey (almost like plastic wrap) and for protecting their egg sacs from predators. The silk is a natural fiber made out of protein. Some spiders build a new web each day, eating and recycling the silk from the old web.


Scientists have long been *studying and researching the silk* the spider produces and want to reproduce a similar synthetic fiber to create similar materials that are strong.

What do they eat?

Spiders can go a long time without eating, however they don't have a preference and are not picky eaters! The diet of a spider depends on its type: spiders that build webs eat flies, mosquitoes, wasps and anything else that heads straight for their sticky trap. However, hunting spiders like the tarantula, will hunt their prey and eat grasshoppers, beetles and larger insects, sometimes even other spiders.

Spiders don't have jaws to eat their food, instead they have fangs. They turn their prey into liquid as they can't digest solid food. They paralyze and cover it with digestive enzymes which help make them easier to eat



 An orb weaver spider has trapped a wasp in silk to be eaten later. Photo courtesy of Sharlene Singh

What role do spiders play in our ecosystem?

Spiders are very important and have a specific job to fill in the life cycle. Spiders are natural predators to other insects and help to control the population of insects that can cause damage to our gardens, farms, sometimes homes and other green spaces. These insects include aphids, flies, mosquitoes, some wasps, ants, stink bugs, grasshoppers, moths, leafhoppers and leaf miners.

LIFE CYCLE: Spiders live for one or more years depending on the type (species of spider). A female spider lays eggs in a sac. These egg sacs can contain up to a 1000 eggs and can be found in crevices and corners or sometimes on the female spider. The spiderlings (babies) hatch in the spring and early summer and look like miniature versions of their parents. They don't stay with their parents for long, venturing out on their own, even without their siblings to start their own lives.



In British Columbia, you can find these types of spiders: Orb Weaver, Wolf Spider, Tarantula, and the crab spider

Why do we see more adult spiders in the fall?

We often see more spiders in the fall as this is their mating season.

ACTIVITY: Go for a nature walk in your neighbourhood in search of an Orb Weaver spider. What is the shape of their web? How many rings can the web have?

Take along a piece of paper and a pencil along to and draw the spider and it's beautiful web.

VIDEOS

[Don't be Afraid of Spiders!](#)

[Spiders at Work](#) (Nature on PBS)

[Spider Shoots 25 Metres Web](#) (BBC Earth)

[Lucas the Spider](#)

CHILDREN'S BOOKS

[I'm Trying to Love Spiders](#) by Bethany Barton

[Walter's Wonderful Web](#) by Tim Hopgood

[Weaving Wonders: Spiders in your Backyard](#) by

Nancy Loewen