

Spider Lab

Pre-Lab

Spiders belong to a class of animals called arachnids. They have four pairs of segmented legs, and can grow a new leg if they lose one. Most spiders have eight eyes, and they do not have antennae or wings. A spider's body is divided into two sections, the abdomen and the cephalothorax. The legs, eyes, and mouthparts are all in the cephalothorax. Most spiders have poison glands and fangs in their jaws, which they use to inject poison into insects. The venom paralyzes or kills their prey.

Spiders usually have six fingerlike silk glands called spinnerets located beneath their abdomen. The silk comes from inside the spider's body as a liquid, thicker than water. When a spider wants to make a web, it squeezes the silk out of the two small holes at the back of its body called spinnerets. The moment it hits the air, the silk dries into a line that looks like a long strand of hair. Many spiders use their sticky silk webs to catch food, which consists of tiny animals. Some spiders use silk as draglines, which are long lines of silk the spider hangs onto as the wind blows it through the air. The spider can always crawl back up the silk line if it is blown some place it doesn't want to be! Some spiders spin silk webs, and others line their burrows with silk. Many spiders lay their eggs in silken sacs. All young spiders, and some adult males, release long silken threads to float or ride the wind to new areas. This is called ballooning. Although spiders can live almost anywhere in the world, some like it where it is very humid, and some like it where it is very dry. Some spiders live underground and catch their prey by jumping out at them. Others live in trees and capture their prey in their webs. Others live in our houses.

Spiders are considered humankind's friend because they help keep the insect population in check. Humans use spiders' silk to make threadlike lines for microscopes, telescopes and other scientific instruments.

All animals have natural enemies. Birds, insects such as wasps, snakes, lizards, frogs and fish eat spiders. Sometimes spiders eat each other. Humans try to destroy them because we do not understand how useful they are. Spiders try to protect and defend themselves from their enemies.

Purpose: To examine a spider.

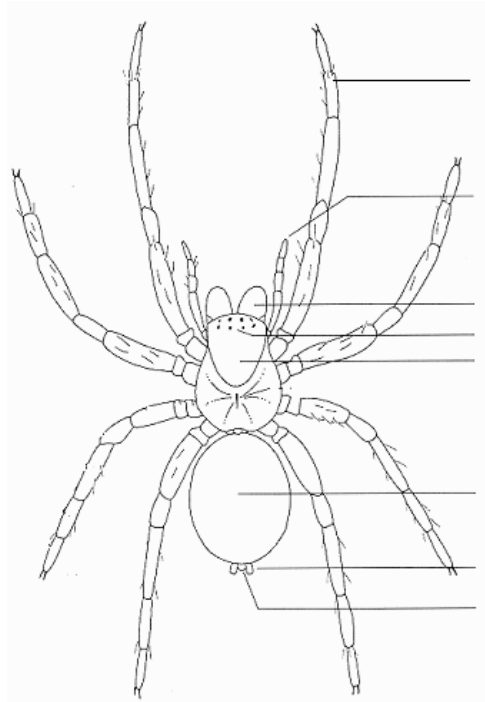
Materials: — Large piece of white paper — Bug box

Procedure:

1. Go outside (or inside!) and find a large leafy bush.
2. Place the large piece of white paper underneath the large leafy bush.
3. Shake the bush vigorously.
4. Look for spiders that have fallen on the white paper.
5. Put one or two spiders into a bug box to observe. Label the diagram in the lab report and answer the discussion questions.
6. After observations, release the spider back into its original habitat.

Observations:

1. Label the parts of the spider. State the main function(s) of each part.



Discussion Questions:

1. What phylum do the spiders belong to? Explain your answer.
2. Name 3 other members that belong to the same phylum.
 - a.
 - b.
 - c.
3. What class do the spiders belong to? Explain your answer.
4. Name another member that belongs to the same class.
5. List four characteristics common to all spiders.
 - a.
 - b.
 - c.
 - d.
6. Describe how spiders make their webs.
7. Name 4 things that the spider uses its silk for.
 - a.
 - b.
 - c.
 - d.
8. Describe how a spider captures and eats its prey.
9. Name one benefit of spiders to humans.
10. Name two natural enemies of spiders.
 - a.
 - b.