

Spiders and Other Arachnids

Biological Classification Series

Grade Levels:

Grades 5-10

Subject Areas:

Science

Life Sciences

Biology

Synopsis:

Comparisons between spiders, Daddy-long-legs and acarids, stress that spiders are not the only members of the Arachnid group. In addition to the eight walking legs that are typical of Arachnids, true spiders such as the house spider and Daddy-long-legs spider, are characterized as having abdomens that are separated from their cephalothoraxes and as being carnivorous and venomous. Their stinging tails and two pincers distinguish true scorpions. Live-action film footage also captures the watchfulness of female spiders and the birth of miniature adults. Statistics allude to 35,500 species of spiders, most of which are harmless.

Learning Objectives: Students will:

Understand that all arachnids have eight walking legs.

Explain the characteristics that distinguish spiders from other arachnids.

Understand that most arachnids are prolific and that some arachnids are a danger to crops.

Understand that most species of spiders are harmless to human beings.

Vocabulary:

venom, fangs, digestive juices, liquefy, ingest, glands, abdomen, carnivorous, venomous, camouflage, acarid, proliferation, cephalothorax, tarantulas, golden orb-web spider

Pre-Viewing Discussion:

How many of you are afraid of spiders? Where did you first learn this fear? Do all spiders bite?

How are baby spiders born?

Is a Daddy long-legs a spider? Does it bite?

Are all scorpions and tarantulas poisonous? Have you ever seen a scorpion or tarantula up close? What did it look like?

Post-Viewing Discussion:

How do spiders capture their prey?

What are the distinguishing characteristics of the members of the arachnid class? Is Daddy-long-legs a spider? Is it an arachnid?

How does the crab spider capture its prey?

How does a scorpion immobilize its prey?

Are most spiders harmful to human beings? How many species of spiders are there?

Further Activities:

Find out which of the five major classification groups spiders and other arachnids are in (i.e. Kingdom, Phylum, Class, Order, Family). Chart the relationships of animals in the largest to the smallest taxonomic groups around them. What characteristics make this group similar to and different from the other groups to which they are related? Then, pick one species from the program and determine its genus and species name, writing them in the proper scientific terminology. Find out why the genus and species name is written the way it is.

Do further investigation of the tail of the scorpion. How many segments are typical? Where is the stinger? What produces the venom? Are there variations in the tails of members of this order?

Investigate how the golden orb-web spider produces a silken thread. Was this spider ever a serious threat to the silkworm industry?

Further investigate the arachnids that damage crops. Which species cause the most damage? What is being done to control them? Are pesticides the only answer?

What scientific observations of spiders apply to the fictional spider portrayed in “Charlotte’s Web”?

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