



All About Spiders

General information about spiders



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The Invertebrate Arachnids

Spiders are not insects, although they often get spoken of as “bugs.” Spiders belong to a class of animals called arachnids. They are invertebrates. They have four pairs of segmented legs. **Most can grow a new leg if they lose one.**

The majority of spiders have eight eyes. But many of them have two to six. They do not have antennae or wings. Even though they do not fly, their silk spinning abilities often carry them far and wide.

Unlike an insect, which has three sections, a spider's body is divided into two sections, the abdomen and the cephalothorax. The legs, eyes, and mouthparts are all in the cephalothorax.

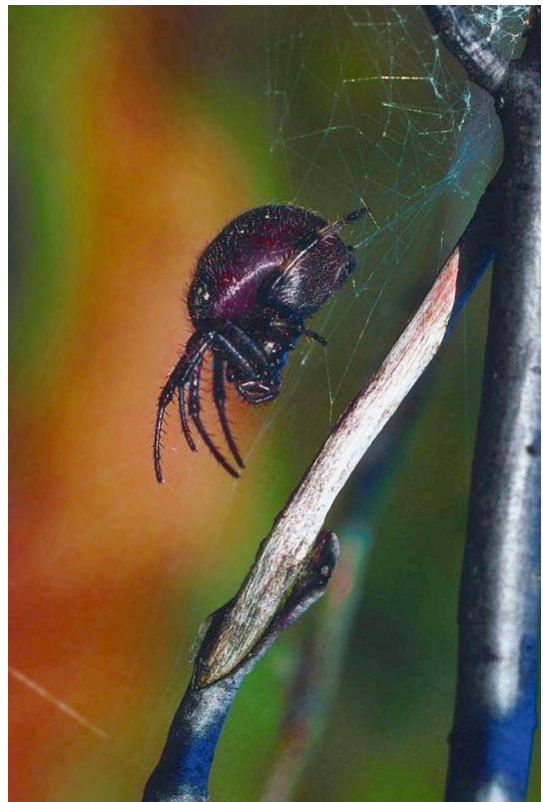
Most spiders have poison glands and fangs in their jaws, which they use to inject poison into insects. The venom paralyzes or kills their prey. However, there are really only three or four spiders that can inject enough venom to kill a person. People may have a reaction to a spider bite, or itch from it, but it is rarely fatal.

Besides killing or paralyzing prey, spiders inject a substance that dissolves the insides of the prey into, well, a slurry. Then they suck up that liquid.

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 insects or tiny animals. Spiders are carnivores. They live on meat, but not chicken or beef. Their meat comes from bugs and insects, and sometimes from birds and mice.

Some spiders use silk as draglines. Draglines 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 weave silken sacs in which to lay their eggs. All young spiders, and some adult males, release long silken threads to float or ride the wind to new areas. This is called ballooning.

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.

A large number live in our houses. You might find them high on the ceiling, or lurking in the darkness of your basement. Many times a spider's common name tells something about the spider. Garden spiders, banana spiders, and water spiders have names that should give you some clues as to where you can find them. Some have names like "wolf spider" that tell you what they look like.



The **tarantula** is probably the most feared of spiders. It is very big and can stretch itself almost to the size of a one-foot ruler – 10 inches. It is furry, unlike other spiders. It is a **nocturnal** animal and comes out at night to find food. It is large enough to eat many animals that smaller spiders can't catch. It can eat big beetles, toads and frogs. It can even eat small birds, snakes and lizards. Most spiders live one or two years, but the tarantula takes eight to 10 years to become an adult, and then lives a few more years. Tarantulas can become pets in our homes because they can be tamed.

A recent trend has been for people to deep fry tarantulas and then eat them. These are considered a delicacy in places like Thailand.

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.





Life Cycle of A Spider

LIFE CYCLE OF A SPIDER



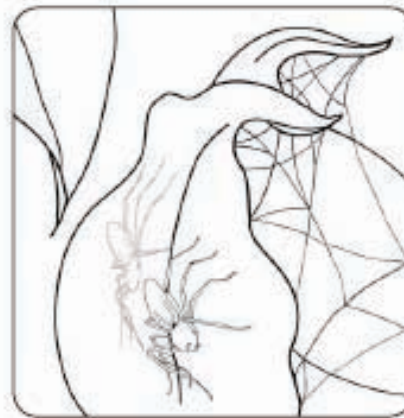
A female spider lays eggs in a silk sac.



She hides the sac under a leaf.



An adult spider may live from one to twenty years.



Most spiders molt many times before they are an adult.



Spiderlings walk or balloon to find a new home.



Spiders hatch from eggs. Spiders usually make an egg sac to protect the hundreds of eggs they may lay. Some mother spiders carry their young on their backs. Others just desert them. Often when the little spiders hatch, they throw out a silken line. This line will catch in the wind and blow them to a new home. This is called ballooning. Because of this, spiders are often found out over the ocean!

Use a clay such as FIMO or SCULPEY to model each stage of the spider's life cycle.

Divide a paper into four parts and draw each stage of a spider's development.

Try to find actual pictures of each stage of the spider's life.



Can you identify the stages?



How Do Spiders Defend Themselves?

Besides people, spiders have natural enemies. Snakes, lizards, fish, frogs, birds, and insects such as wasps all eat spiders. Sometimes spiders eat each other.

Spiders are actually very useful to humans. Very few of the 90,000+ species of spiders are actually poisonous to people. Still, we often kill them even though they are not a threat to us.



Spiders try to protect and defend themselves from their enemies. All of us know how to protect ourselves using methods that are very similar to those of the spider.

So how do the fragile spiders survive?



1. Escape From the Enemy!

Spiders can move along their webs rapidly. They can spin a line and swing to safety. Some can use their lines like parachutes and float off. And some can run extremely fast, sixty or seventy miles an hour!

2. Hide From the Enemy!

A spider often has the same colors as the leaves, grass, trees and dirt around it. It can hide by using its patterns and colors for camouflage to blend in.



3. Frighten the Enemy!

Although few spider bites are actually harmful to humans, we still tend to avoid them because we are afraid of them. Many spiders, such as the wolf spider and tarantulas, are large and LOOK scary.



4. Venom: Bite the Enemy!

Use a weapon – venom! Most spiders are not poisonous, but some are. The **black widow** and the **brown recluse** are poisonous and make people very ill with their bites. Spiders very rarely attack their enemies. If a spider sees an enemy, it will usually try to get away. But all spiders use their poison in self-defense, when escape is impossible.



5. Irritate the Enemy!

Some spiders, such as many of the tarantulas, have an irritant on the hairs of the leg. When someone brushes it, it stings and irritates the skin.



At times, spiders will not attack their prey unless it is moving. Many insects have learned that if they do not move, the spider will not detect their motion vibrations. Spiders that ensnare their prey in their webs do not use their poison. The spiders that hunt for their prey, or hide on flowers and capture insects by grasping them with their fangs when the insects come close by, kill their victims with poison.



Poisonous Spiders!

****There is a Power Point for this.**

The only places on earth that you can't find spiders are at the poles in the coldest of cold, on the highest mountains, and in the deepest seas. There are about 35,000 named, and probably close to 90,000 species in all. Find one that is unnamed and you could have a spider named after yourself.

Spiders are carnivorous. That means that they eat only meat. But they don't make hamburgers or chicken. Instead they eat insects and sometimes other spiders. Some spiders eat other animals such as small fish, lizards, frogs, baby birds and mice.



Most spiders use poison to kill or paralyze their prey. All spiders have poison or venom, but only a few spiders have poison strong enough to hurt people.



Some people are sensitive to spider bites and will get a small itchy rash or a bump that looks like a mosquito bite. These are easily treated, and are not dangerous.

However, there are a few spiders that can cause serious injury and even death. Spiders that bite and cause pain to humans are called medically significant spiders. This means that they have enough venom (poison) to cause a serious bite that will need to be looked at by a doctor.

Some of the poisonous spiders found in North America include **the black widow, the brown recluse, the hobo spider, and the yellow sac spider**. Sometimes the Brazilian Wandering Banana Spider can also be found when it comes in on produce. There are also poisonous spiders found in other parts of the world. Australia has some of the most poisonous in the world.





There are about 6 different species of **black widow spiders**. Three of these species are found in the warm southern United States.

Black widow spiders build webs, and they live wherever they can build one. They rarely live in houses and other buildings, but if the weather gets very cold, they can move inside. It is a good idea to wear gloves when working in woodpiles, fences, and around buildings.



Black widow spiders eat insects, and stay in their webs to catch them. Only the female black widow spider is dangerous. Most males are killed after mating. She is considered to be the most venomous spider in the United States! Females are shiny black, with a red hourglass shaped mark on the bottom of their abdomens. Although they are dangerous, black widow spiders are not usually deadly because they only inject a very small amount of poison.



The brown recluse spider is often called a violin spider because of the marking on its back. It lives mainly in the Midwestern United States. The brown recluse spider also spins webs, and can be found in dark, undisturbed areas. Unlike the black widow, the brown recluse leaves its web at night and goes in search of insects to eat.

Both the male and female brown recluse spiders are poisonous. A person usual does not die from the bite, but the bites are horrible and get necrotic. They are painful and take at least a year to heal. The poison eats away at the flesh around the bite area.



A third poisonous spider is not native to the United States, but was introduced from Europe. Its name is **the hobo spider**. It now makes its home from British Columbia in Canada to the Northwestern U. S.

The hobo spider also builds webs, but its webs are funnel webs and are almost always in the ground..

Female hobo spiders never leave their webs, and so the male spiders search for them. Because of this, most bites from hobo spiders come from the wandering males. Hobo spider bites aren't deadly, but they are painful.

The yellow sac spider is commonly found in homes and gardens throughout the United States. The sac spider also makes a type of web; it makes a sac out of silk. The spider sits in this sac when it is not out hunting. Sac spider bites are the least medically significant. This means that out of the black widow, brown recluse, hobo spider





and sac spider, the sac spider's bite causes the least amount of damage.

Although these four spiders are poisonous to people, they don't *attack* humans. Spiders are more scared of people that we are of them! Spiders only bite if they are trapped close to the skin, or cannot escape. If you do get bitten, wash and treat the infected area. If you know you know or suspect that you have been bitten by a poisonous spider, go to your doctor.







Name: _____





Spider Facts

 Spiders are not insects. Insects have three body parts and six legs. Spiders have eight legs and two body parts, cephalothorax (that has the head) and the abdomen. There is a pedicel that connects the two.

 Spiders have silk spinning glands called spinnerets, at the tip of their cephalothorax.


 Not all spiders spin webs, but all make some kind of silk.

 Spiders belong to the Arachnid family.

 There are more than 30,000 *named* species of spiders. Scientists believe there could be 35,000 more that don't have names yet!

 Spiders are oviparous, which means their babies come from eggs.

 Most spiders have either six or eight eyes.

 All spiders have fangs, through which venom is ejected. Spider bites can be quite painful, and a select few can be fatal.

 Fear of spiders is called Arachnophobia. It is one of the most common fears among humans.

 Tarantulas shed their furry skin as they grow, leaving behind what looks just like another tarantula.

 Spiders eat many types of harmful insects, helping to keep your garden free of pests.

