



(Source: <https://en.wikipedia.org/wiki/Agelenopsis>)

## Spider: Friend or Foe?

By: Bryant Garrido

You see something furry and small SCURRY along the floor, and it has 8 legs... it's a spider!!! What do you do? Do you step on it or maybe get a paper towel and place it outside? Before you get out your shoe, bug spray or spatula think about the BENEFITS that a spider will bring to your home! Yes, that's right! Spiders can be an excellent ADDITION to any household. But before we can talk about the positive traits, we need to go over what spiders are and how they live.

Spell: SCURRY

BENEFITS

EXCELLENT

Spiders can be an excellent \_ to any household. ADDITION

Besides crushing the spider, where can you place it? OUTSIDE

What is one item that was mentioned that can be used to get rid of a spider? SHOE, BUG SPRAY, SPATULA

How many legs do spiders have? 8

What is the fear of spiders called? ARACHNOPHOBIA

What do you think about spiders?

Spiders are ARACHNIDS, a type of ARTHROPOD that also includes scorpions, mites, and ticks. There are more than 45,000 known species of spiders all over the world. Spiders live in almost every habitat on earth, except for polar regions, oceans and high mountains. They can be found on every continent except ANTARCTICA. They can range in size from .011 inch to almost a foot! Spiders are beneficial predators that provide excellent pest control in and around homes, yards, gardens and crops. Though most spiders have VENOM, only a handful are dangerous to humans including the BLACK WIDOW and the BROWN RECLUSE.

Spell: ARACHNIDS                      HABITAT                      VENOM

Arachnids are a type of what? ARTHROPOD

What continent are spiders not found in? ANTARCTICA

Name an arthropod that was mentioned: SCORPION, MITE, TICK

Name a dangerous spider to humans: BLACK WIDOW, BROWN RECLUSE

Over how many known species of spiders are there? 45,000

Let's say you get an opportunity to move to anywhere in the world, where would you live?

Spiders may look scary, but they are very useful. They eat PESTS including roaches, earwigs, flies, fleas, moths, and pesky mosquitoes. Because of this, they prevent the spread of diseases found in these insects including bubonic plague, typhus fever and MALARIA. They also eat insects that feast on our crops such as aphids and caterpillars. There is ongoing research into toxins in spider venom for TREATMENT for pain. POTENTIAL has also been found for treating heart ARRHYTHMIA, epilepsy, and cancer.

Spell: DISEASES                      TREATMENT                      POTENTIAL

Spiders may be scary but are very \_. USEFUL

What was being studied in the spider's venom? TOXINS

Name two pests that spiders eat: ROACHES, EARWIGS, FLIES, FLEAS, MOTHS, MOSQUITOES

Name a disease that could be prevented from spiders eating pests: BUBONIC PLAGUE, TYPHUS FEVER, MALARIA

Name an insect that spiders eat that feed on our crops: APHIDS, CATERPILLARS

What comic book hero is based on a spider? SPIDERMAN

Is there a bug or animal that you would like to be turned into a superhero?

ARACHNOPHOBIA, otherwise known as spider phobia, is the intense fear of spiders and other arachnids. When in contact with, or thinking about spiders, individuals will likely feel fear and experience symptoms of anxiety almost immediately. Like other specific phobias, arachnophobia is most commonly treated with therapy, cognitive behavioral techniques.

COGNITIVE BEHAVIORAL THERAPY (CBT) focuses on stopping the NEGATIVE thoughts that are associated with the feared object or situation and replacing them with more rational thoughts. About 3% to 15% of the POPULATION has arachnophobia.

Spell: POPULATION                      NEGATIVE                      SITUATION

What's another way to say arachnophobia? SPIDER PHOBIA

CBT stands for cognitive \_ therapy: BEHAVIORAL

What's a feeling that people with arachnophobia feel when they think or come into contact with a spider? FEAR, ANXIETY

What is one way to treat arachnophobia? THERAPY, CBT, COGNITIVE BEHAVIORAL TECHNIQUES

What's the top range of % of the population that has arachnophobia? 15%

What classic book/movie is based on a spider and a pig? CHARLOTTE'S WEB

Have you heard of any other phobias? Is there one that you feel strongly about?

VAKT: Let's take a moment to watch this video which tells us fun facts about spiders! <https://youtu.be/CTCJwemsQEA>

(02:50 Interesting facts about spiders)

Spiders will only bite humans in SELF-DEFENSE, and most spider bites are less dangerous than a MOSQUITO bite or YELLOWJACKET sting. The bites of brown recluse spiders and black widow spiders are among the most dangerous, but those spiders would rather flee from humans and will bite only when TRAPPED. Almost all spiders produce venom, which serves the primary purpose of IMMOBILIZING their prey. However, the potency of this venom can vary wildly from spider to spider, and the majority are not harmful to humans.

Spell: DEFENSE                      TRAPPED                      PRIMARY

Spiders will only bite humans in self \_\_. DEFENSE

Almost all spiders produce \_\_? VENOM

A spider bite is less dangerous compared to what? MOSQUITO BITE, YELLOWJACKET STING

Name a spider that has a dangerous bite: BROWN RECLUSE, BLACK WIDOW

In a sentence what does spider venom do? SPIDER VENOM IMMOBILIZES THEIR PREY.

Most creatures when pushed to a corner will attack to defend itself. Is there a time where you experienced this from another creature or seen a creature defend itself against a human? How did you react?

LOXOSCELES RECLUSA, also known as the Brown Recluse, are FOUND in sixteen states. These spiders are brown in color, with their body being 9 millimeters ( $\frac{1}{3}$  inch) in length with long legs. Brown recluse spiders have six eyes, arranged in three pairs of two eyes each, and have a violin-shaped marking on the head. They have a lifespan of 1-2 years. After mating in June or July, the female will produce twenty to fifty eggs and two to five batches in her lifetime. Their preferred habitat is gaps under rocks, boards, and the bark of dead trees and logs.

Spell: HABITAT                      LIFETIME                      BATCHES

What color is the spider we're talking about? BROWN

What is the scientific name for the brown recluse spider? LOXOSCELES RECLUSA

How many states can you find this spider in? 16

How many eyes do these spiders have? 6

Name a habitat where you can find these spiders? GAPS UNDER ROCKS, BOARDS, BACK OF DEAD TREES AND LOGS

Name a month when this spider mates: JUNE, JULY



Here is where they can be found in the USA

When a bite does occur from a Brown Recluse, it is usually because it's TRAPPED against your skin and feels threatened. The bite is usually PAINLESS to begin with, and occasionally SYMPTOMS will progress with time. Approximately 90% of brown recluse bites result in no reaction or a small red bump that heals on its own. In approximately 10% of cases, over the next 2 to 6 hours, the site of the bite gets bigger, becomes more painful and forms a blister. If the area around the bite becomes more purple in color around 12 to 24 hours after the bite, skin death will likely occur. This is known as necrosis. If NECROSIS occurs, it can take several weeks or even months for the wound to heal fully.

Spell: PAINLESS

SYMPTOMS

PROGRESS

What is skin death called? NECROSIS

What color does the skin around the bite turn to indicate necrosis?

PURPLE

In a sentence, explain when a brown recluse spider bite you? TRAPPED AGAINST YOUR SKIN, FEELS THREATENED

How long does it take to fully heal from necrosis? SEVERAL WEEKS, MONTHS

What percentage of brown recluse bites result in no reaction or small red bump? 90%



Here's a picture of the brown recluse spider.

The LATRODECTUS VARIOLUS also known as the NORTHERN BLACK WIDOW can be found in CT, MA, RI, ME, NH and VT in New England and from northern FLORIDA to south-eastern CANADA. In all black widow species, the females are the most DISTINCTIVE, with shiny black bodies and a red hourglass-shaped marking on the underside of their round abdomen. Males are lighter in color with smaller abdomens that may have red or pink markings. Female black widows have a body length up to 0.5 inches (13 millimeters), and males are typically about half the size of females. They inhabit urban areas as well as forests, deserts and grasslands.

Spell: FLORIDA

DISTINCTIVE

ABDOMEN

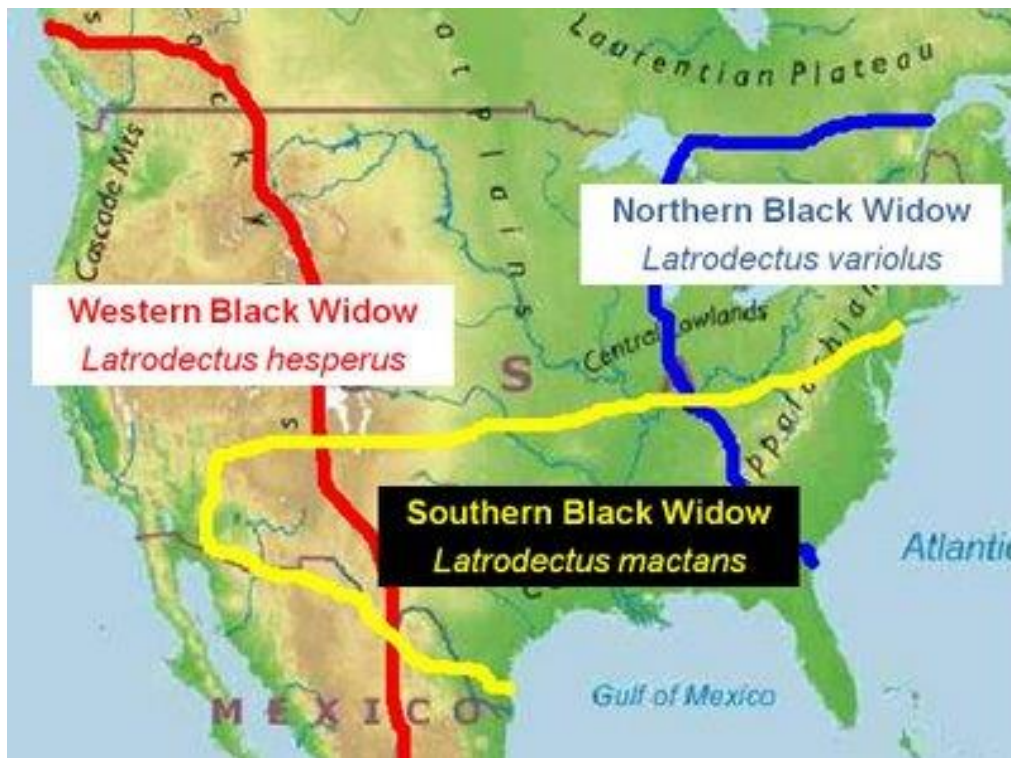


What type of black widow is most distinctive? FEMALE

Males are typically \_\_\_ the size of females. HALF

How can you identify the difference between a female and male black widow? SHINY BLACK BODIES, RED HOURGLASS SHAPED MARKING

What are some of the habitats of the black widow? FOREST, DESERT, GRASSLANDS, URBAN AREAS



VAKT: Take a look at this map of the different types of Black Widows and where they live. Trace the area of the Northern Black Widow.

The Black Widow is the most VENOMOUS spider in North America; however, their bite is rarely fatal to humans. They don't frequently bite because they prefer fleeing when disturbed. Venom of a widow spider is 15 times more toxic than that of rattlesnakes. However, due to the small amount of the venom INJECTED into the bite, Black Widow bites are far less serious. There is less than 1% MORTALITY of people bitten by Black Widows. Pain is felt immediately after the bite and increases for 1 to 3 hours but may last for 24 hours. In severe cases, large muscles become

RIGID with spasms, there is a rise in body temp, blood pressure, sweating, and a tendency to be NAUSEOUS.

Spell: INJECTED

NAUSEOUS

RIGID

What do black widows prefer doing when disturbed according to the paragraph? FLEE

If you are bitten, when would you feel the pain? IMMEDIATELY

The black widow's venom is \_ times more toxic than rattlesnakes. 15

How many hours can the pain last for? 24

What can happen in severe cases,? RISE IN BLOOD PRESSURE, BODY TEMPERATURE, SWEATING, NAUSEA



VAKT: Using your finger, point to the red hourglass on the black widow.  
Don't worry it won't bite!

Not all spiders are scary looking, let's take a look at the MARATUS VOLANS, also known as the PEACOCK spider. It's a species of JUMPING spider and is found in QUEENSLAND, NEW SOUTH WALES, and TASMANIA, AUSTRALIA. They are named for their RESEMBLANCE to peacocks while they do their mating ritual. The male spiders perform a dance to persuade females to mate with them. If, however, the female rejects the male's offer, she may end up eating him! They are small spiders and only reach a body length of 5 mm (0.2 in). They can jump up to 10



centimeters (40 times their body size) and see the full rainbow spectrum of light, including UV.

Spell: SPECIES

PERFORM

RESEMBLANCE

What is the scientific name for the peacock spider? MARATUS VOLANS

What species of spiders does it belong to? JUMPING

In what country do you find this spider? AUSTRALIA

What is one place in Australia where you can find one? QUEENSLAND, NEW SOUTH WALES, TASMANIA

In a sentence explain where they got their names from. THEY RESEMBLE PEACOCKS DURING THEIR MATING RITUAL.

How many centimeters can this spider jump up to? 10

Is there another type of spider that you think should be mentioned in the lesson?

If you suddenly turned into a spider, what would you look like?



VAKT: Here's a picture of a peacock spider. Using your finger, trace the blue area on its body.

VAKT: Let's take a look at what the mating ritual looks like.

<https://youtu.be/5qkzwG2ILPc> (04:49) Peacock spiders, dance for your life!

BBC

Spiders are NECESSARY to maintain a healthy ecosystem. Although they may be scary looking, less than 30 types have been RESPONSIBLE for human deaths. That includes every spider on the planet! In the US, there are only 11 fatalities from spiders a year. Let's compare that to another common misunderstood creature, sharks! Spiders are more scared of you than you are of them. They will only bite as a last resort so if you see a spider, APPRECIATE it from a distance and leave it alone!

Spell: NECESSARY                      RESPONSIBLE                      APPRECIATE

What is necessary to maintain a healthy ecosystem? SPIDERS

What do spiders do as a last resort? BITE

How many fatalities a year are from spiders? 11

What should you do if you see a spider according to the paragraph?

APPRECIATE IT FROM A DISTANCE, LEAVE IT ALONE

What are you scared of?

### Creative Writing

1. You're taking a walk and a radioactive spider lands on you. You feel an itching sensation on your hand and next thing you know you have super powers! What superpowers do you have? What do you do with them? What's your super identity?
2. Throughout history humanity has shown that they fear what they don't understand. Think about a time you were really scared of something but then realized it wasn't so bad or someone you know who has gone through it. What do you believe people should educate themselves on before being afraid of it? How would they go about doing that?

3. Congratulations! You have discovered a new species of spider. What do you call it? What's it look like? Where and how does it live? Do you keep it as a pet?

Sources:

<https://bioadvanced.com/controlling-spiders-house-friend-or-foe>

<https://www.nationalgeographic.com/animals/invertebrates/facts/spiders>

<https://www.rescue.com/bugs/spiders/#:~:text=Spiders%20live%20in%20al most%20every,regions%2C%20oceans%20and%20high%20mountains.>

[https://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-22\\_spiders-](https://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-22_spiders-)

[overview.htm#:~:text=Role%20of%20Spiders%20as%20Biological%20Con trol%20Agents&text=Spiders%20are%20beneficial%20predators%20and, %2C%20yards%2C%20gardens%20and%20crops.](https://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-22_spiders-overview.htm#:~:text=Role%20of%20Spiders%20as%20Biological%20Con trol%20Agents&text=Spiders%20are%20beneficial%20predators%20and, %2C%20yards%2C%20gardens%20and%20crops.)

<https://my.clevelandclinic.org/health/diseases/21852-arachnophobia-fear-of->

[spiders#:~:text=About%203%25%20to%2015%25%20of%20the%20popul ation%20has%20arachnophobia.](https://my.clevelandclinic.org/health/diseases/21852-arachnophobia-fear-of-spiders#:~:text=About%203%25%20to%2015%25%20of%20the%20popul ation%20has%20arachnophobia.)

<https://www.verywellmind.com/spider-fears-or-arachnophobia-2671679>

<https://extension.psu.edu/brown-recluse->

[spiders#:~:text=Brown%20recluse%20spiders%20are%20established,Okla homa%2C%20Tennessee%2C%20and%20Texas.](https://extension.psu.edu/brown-recluse-spiders#:~:text=Brown%20recluse%20spiders%20are%20established,Okla homa%2C%20Tennessee%2C%20and%20Texas.)

<https://www.medicalnewstoday.com/articles/313661#appearance-and-symptoms>

<https://www.livescience.com/39919-black-widow-spiders.html>

<https://www.canr.msu.edu/resources/northern-black-widow-spider-latrodectus->

[variolus#:~:text=Pain%20is%20felt%20almost%20immediately,a%20tende ncy%20to%20be%20nauseous.](https://www.canr.msu.edu/resources/northern-black-widow-spider-latrodectus-variolus#:~:text=Pain%20is%20felt%20almost%20immediately,a%20tende ncy%20to%20be%20nauseous.)

<https://exhibits.library.cornell.edu/arachnophilia/feature/venom-as-medicine>

[https://www.mayexterminating.com/6-surprising-facts-about-peacock-spiders/](https://www.mayextermimating.com/6-surprising-facts-about-peacock-spiders/)

[https://www.cell.com/current-biology/pdf/S0960-9822\(14\)00591-0.pdf](https://www.cell.com/current-biology/pdf/S0960-9822(14)00591-0.pdf)

<https://faunafacts.com/spiders/yearly-deaths-from-spider-bites/>