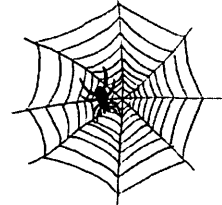


“Dream Weavers” - A Closer Look at Spiders, the Original Web Designers

Spiders and their ability to create intricate web designs have fascinated people for centuries. Many cultures have stories of these amazing creatures and their webs. Dream catchers are made in the shape of spider webs because legend has it that when one is placed over one's bed, Good dreams will pass through the web but bad dreams will be captured and held until morning light destroys them. This quest will allow teams to take a closer look at these natural wonders and how they survive.

Complete the stations, discover the combination and unlock your stamp.



Station One – Anatomy

Spiders have 6 main parts of their bodies but only one helps them to make silk. Look at the interpretive panel, complete a rubbing and label the following parts. **Bring your own crayon or pencil!**

Leg- Spiders use eight legs for walking. Legs have seven segments and help a spider feel vibrations and collect the scent of prey or other spiders.

Palp (Pedipalps)- These leg-like appendages help the spiders touch and feel around them. These have 6 segments and are also used for mating.

Chelicera- These are the mouth parts of a spider. They inject the venom and help the spider take in food.

Cephalothorax- This part of the body joins the head, eyes, and the thorax. Most spiders have eight eyes. This area also contains the spider's stomach, "brain", and venom glands. All spiders have venom but only two species in Maryland are dangerous to people, the black widow and the very rare and invasive brown recluse. Check out the "Common Maryland Spiders" fact sheet to learn how to identify all of Maryland's spider types.

Abdomen- The abdomen contains a spider's heart, intestines, oviducts, and silk glands. All spiders make silk but not all spiders make webs. Some spiders use silk to protect their eggs, capture and store food, move from place to place. Orb-weaver spiders make the most beautiful webs.

Spinneret - This is the silk spinning organ of a spider. Most spiders have multiple silk glands that make several threads of silk that the spinneret weaves together for the purpose the spider has in mind.

Station Two – Web Design

At this station, teams get to design their own web. In the box provided, teams should find a roll of twine and a pair of scissors. Using the twine and the wooden frame with rings in front of you, work together to make your own web. Tie the twine to the rings provided and see how creative you can be. Hint: Orb – weaver spiders make support lines first then spin the web in a circle. Take a picture and share on your favorite social media site #mpsparkquestwebs. When you are finished remember “leave no trace”. Take your web apart and put it back in the box for another team to use.

Station Three – Vibration Station

Spiders who use webs to capture prey use their feet to feel the vibration of the insect on the web and then rush to capture it. For its size and density, spider silk has a tensile strength five times stronger than a strand of steel the same diameter. This station is to help team members understand how vibration travels through a web to a waiting spider. Place one hand gently on the wire mounted on station three and with the other hand or ask a teammate to pluck or strum the wire firm enough to make it move and feel the vibration. Try it several times at different distances. The stronger the vibration, the closer the prey.

Station Four – Spider Web Challenge

Have you ever walked into a spider web while hiking? The web can be very sticky. Do not feel bad for breaking the web because spiders make new webs almost every day. This challenge will require team work to achieve. The goal is to get every team member through the web without touching a single strand. Use some strategy and be careful. If you can't do it, its ok you can still complete the quest.

Station Five- The Locked Box

Congratulations you have made it to the end of the Dream Weavers Park Quest Adventure. On each station you may have noticed a random letter. Unscramble the letters to make a word and open the lock to get the stamp. We hope you have enjoyed your visit to Cunningham Falls State Park. If you have any problems or need to report an issue with the quest, please stop by the visitor center where your quest began or call (301) 712-6964 and a Ranger will be able to assist you.

Be inspired! Don't let the quest end! When you get home, go exploring around your house or neighborhood and send us a picture or drawing of a spider web that you found. Nature journaling and illustrating helps us all learn more about and appreciate the natural world around us. Send your discovery to Ranger Mark Spurrier at mark.spurrier@maryland.gov. Be safe and go explore!

ANATOMY OF A SPIDER

Using a pencil or a crayon (provide your own), make a rubbing of the spider at Station 1 and label the parts of the spider.

Common Maryland Spiders



Black Widow Spider
© Richard Schuerger



Cellar Spider
By: Olaf Leillinger



Jumping Spider species
© Richard Schuerger



Crab Spider species
By: R.H. Wiegand



Common House Spider
© Richard Schuerger



Funnel Weaver Spider species
© Richard Schuerger



Fishing Spider species
By: Richard Orr



Wolf Spider species, Female with Young
By: Kerry Wixted



Nursery Web Spider species
By: Kerry Wixted



Black and Yellow Garden Spider (left)
Marbled Orb Weaver (center)
By: Kerry Wixted
Spined Micrathena (right)
By: Patrick Coin

Common Maryland Spiders

Spiders are some of the hardest working wildlife in Maryland. Many people are fearful of spiders and often overlook the critical role they play controlling insect pests. Knowing how to distinguish some of the different types of spiders and understanding the important functions that they serve in our environment can often lead to a greater appreciation of their beneficial qualities. This online guide is not an inclusive list of spiders found in Maryland, but it contains many commonly encountered spiders. There are over 40,700 species of spiders worldwide and hundreds of species in Maryland.

For more information on these species, check out the DNR page on MD's Spiders:

dnr.maryland.gov/wildlife/Pages/habitat/waspiders.aspx

Venom and Bites

Many of the spiders in Maryland possess venom, but the black widow is the only native Maryland spider that is dangerous to people. All other venomous Maryland spiders either have too little venom to affect people or their venom is specially adapted for their prey.

Brown recluse spiders are not native to Maryland, but on very rare instances they can stow away on packages from the Midwest and the Southwest where the Brown recluses are more common.

Spider bites are actually quite uncommon, and most spiders will only bite humans in self defense. While spiders have fangs, they are usually too small to leave visible puncture wounds. Many times, spider bites will result in pain, redness, itching and swelling that lasts a couple of days. Spiders rarely bite more than once, so multiple bites are usually caused by insects such as fleas, bedbugs, chiggers, ticks, mites and biting flies.

Although black widow and brown recluse spider bites are rare, care must be taken to properly identify and treat the wound. Healthy adults may only experience mild symptoms but children, the elderly and those with compromised immune systems should be extra cautious.



Wolf spider, photo by Richard Orr

Wolf spiders are commonly misidentified as brown recluses.



Brown recluse spider, photo by Mark Dreiling

However, brown recluses have a distinct violin shape on their head (see picture on right) compared to wolf spiders which usually have stripes (see picture on left).