

Registration form

Spider Control CEU Training \$150.00
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Rush service does not include overnight delivery or FedEx fees.

Start and finish dates: _____
You will have 90 days from this date in order to complete this course

Print Name: _____
I have read and understood the disclaimer notice found on page 2 and 4. Signature is required.

Signature: _____

Address: _____

City _____ **State** _____ **Zip** _____ **Email** _____

Phone:
Home () _____ **Work** () _____ **Fax** () _____

License or Operator ID # _____ **Exp. Date** _____

Class/Grade _____
Please circle which certification you are applying the course CEU's/PDH's.

Commercial Applicator Residential Applicator Industrial Applicator
Pesticide Handler Agricultural Applicator Adviser Other _____

Your certificate will be mailed to you in about two weeks.

Technical Learning College P.O. Box 3060, Chino Valley, AZ 86323
Toll Free (866) 557-1746 Fax (928) 272-0747 info@tlch2o.com

If you've paid on the Internet, please write your Customer # _____

We'll stop mailing the certificate of completion we need your e-mail address.

DISCLAIMER NOTICE

I understand that it is my responsibility to ensure that this CEU course is either approved or accepted in my State for CEU credit. I understand State laws and rules change on a frequent basis and I believe this course is currently accepted in my State for CEU or contact hour credit, if it is not, I will not hold Technical Learning College responsible. I fully understand that this type of study program deals with dangerous, changing conditions and various laws and that I will not hold Technical Learning College, Technical Learning Consultants, Inc. (TLC) liable in any fashion for any errors, omissions, advice, suggestions or neglect contained in this CEU education training course or for any violation or injury, death, neglect, damage or loss of your license or certification caused in any fashion by this CEU education training or course material suggestion or error or my lack of submitting paperwork. It is my responsibility to call or contact TLC if I need help or assistance and double-check to ensure my registration page and assignment has been received and graded. It is my responsibility to ensure all information is correct and to abide with all rules and regulations.

You can obtain a printed version of the course manual from TLC for an additional \$69.95 plus shipping charges.

AFFIDAVIT OF EXAM COMPLETION

I affirm that I personally completed the entire text of the course. I also affirm that I completed the exam without assistance from any outside source. I understand that it is my responsibility to file or maintain my certificate of completion as required by the state or by the designation organization.

Grading Information

In order to maintain the integrity of our courses we do not distribute test scores, percentages or questions missed. Our exams are based upon pass/fail criteria with the benchmark for successful completion set at 70%. Once you pass the exam, your record will reflect a successful completion and a certificate will be issued to you.

For security purposes, please fax or e-mail a copy of your driver's license and always call us to confirm we've received your assignment and to confirm your identity.

Do not solely depend on TLC's Approval list for it may be outdated.

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<http://www.abctlc.com/downloads/PDF/PROCTORFORM.pdf>

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CUSTOMER SERVICE RESPONSE CARD

Spider Control Training Course

DATE: _____

NAME: _____

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PLEASE COMPLETE THIS FORM BY CIRCLING THE NUMBER OF THE APPROPRIATE ANSWER IN THE AREA BELOW.

1. Please rate the difficulty of your course.
Very Easy 0 1 2 3 4 5 Very Difficult

2. Please rate the difficulty of the testing process.
Very Easy 0 1 2 3 4 5 Very Difficult

3. Please rate the subject matter on the exam to your actual field or work.
Very Similar 0 1 2 3 4 5 Very Different

4. How did you hear about this Course? _____

5. What would you do to improve the Course?

Any other concerns or comments.

Important Information about this Course (Disclaimer Notice)

This CEU course has been prepared to educate pesticide applicators and operators in general safety awareness of dealing with the often-complex and various pesticide treatment sprays, devices, methods, and applications. This course (manual) will cover general laws, regulations, required procedures and accepted policies relating to the use of pesticides and herbicides. It should be noted, however, that the regulation of pesticides and hazardous materials is an ongoing process and subject to change over time. For this reason, a list of resources is provided to assist in obtaining the most up-to-date information on various subjects. This manual is not a guidance document for applicators or operators who are involved with pesticides. It is not designed to meet the requirements of the United States Environmental Protection Agency or your local State environmental protection agency or health department. This course manual will provide general pesticide safety awareness and should not be used as a basis for pesticide treatment method/device guidance. This document is not a detailed pesticide informational manual or a source or remedy for poison control.

Technical Learning College or Technical Learning Consultants, Inc. makes no warranty, guarantee or representation as to the absolute correctness or appropriateness of the information in this manual and assumes no responsibility in connection with the implementation of this information. It cannot be assumed that this manual contains all measures and concepts required for specific conditions or circumstances. This document should be used for educational purposes only and is not considered a legal document. Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Confine chemicals to the property or plants being treated. Avoid drift onto neighboring properties, especially gardens containing fruits and/or vegetables ready to be picked. Dispose of empty containers carefully. Follow label instructions for disposal. Never reuse containers. Make sure empty containers are not accessible to children or animals. Never dispose of containers where they may contaminate water supplies or natural waterways. Do not pour down sink or toilet. Consult your county agricultural commissioner for correct ways of disposing of excess pesticides. You should never burn pesticide containers.

Individuals who are responsible for pesticide storage, mixing and application should obtain and comply with the most recent federal, state, and local regulations relevant to these sites and are urged to consult with the EPA and other appropriate federal, state and local agencies.

USE PESTICIDES WISELY: ALWAYS READ THE ENTIRE PESTICIDE LABEL CAREFULLY, FOLLOW ALL MIXING AND APPLICATION INSTRUCTIONS AND WEAR ALL RECOMMENDED PERSONAL PROTECTIVE GEAR AND CLOTHING. CONTACT YOUR STATE DEPARTMENT OF AGRICULTURE FOR ANY ADDITIONAL PESTICIDE USE REQUIREMENTS, RESTRICTIONS OR RECOMMENDATIONS.

NOTICE: MENTION OF PESTICIDE PRODUCTS IN THIS COURSE DOES NOT CONSTITUTE ENDORSEMENT OF ANY MATERIAL OR HERB OR HERBAL SUPPLEMENT. ALWAYS FOLLOW THE PRODUCT'S LABEL INSTRUCTIONS.

NOTICE

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Spider Control CEU Course Answer Key

Name _____

Telephone _____

Did you check with your State agency to ensure this course is accepted for credit?

Method of Course acceptance confirmation. Please fill this section

Website ___ Telephone Call ___ Email ___ Spoke to _____

Did you receive the approval number, if applicable? _____

You are responsible to ensure that TLC receives the Assignment and Registration Key. Please call us to ensure that we received it. No refunds.

Multiple Choice. Pick only one answer per question.

Circle or Mark off or Bold the answer. Please circle the number of the assignment version 1 or 2 or 3 or 4 or 5

Topic 1 Arachnid Introduction

Ten Questions

- | | |
|----------------|-----------------|
| 1. A B C D E F | 6. A B C D E F |
| 2. A B C D E F | 7. A B C D E F |
| 3. A B C D E F | 8. A B C D E F |
| 4. A B C D E F | 9. A B C D E F |
| 5. A B C D E F | 10. A B C D E F |

Topic 2 Spider Identification Section

Ten Questions

- | | |
|----------------|-----------------|
| 1. A B C D E F | 6. A B C D E F |
| 2. A B C D E F | 7. A B C D E F |
| 3. A B C D E F | 8. A B C D E F |
| 4. A B C D E F | 9. A B C D E F |
| 5. A B C D E F | 10. A B C D E F |

Topic 3 Web Spiders

Ten Questions

1. A B C D E F

2. A B C D E F

3. A B C D E F

4. A B C D E F

5. A B C D E F

6. A B C D E F

7. A B C D E F

8. A B C D E F

9. A B C D E F

10. A B C D E F

Topic 4 Spider Control Section

Ten Questions

1. A B C D E F

2. A B C D E F

3. A B C D E F

4. A B C D E F

5. A B C D E F

6. A B C D E F

7. A B C D E F

8. A B C D E F

9. A B C D E F

10. A B C D E F

Complete all the Topical Sections before submitting the answer key

INSTRUCTIONS

1. We will require all students to fax or e-mail a copy of their driver's license with the registration form.
2. You will need to pick one of the following four assignments to complete. This selection process is based upon your last name.

Assignment for Last Names

If your last name...

A-G Assignment #1 pages 7-14

H-M Assignment #2 Pages 15-22

N-S Assignment #3 Pages 23-30

T-Z Assignment #4 Pages 31-38

Alternative Assignment #5 for repeat students Pages 39-45

**These exams are frequently rotated.
Complete all topics before submitting the answers key.**

Spider Control CEU Conventional Assignment #1

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

Topic 1 Arachnid Introduction Section

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Chelicerata

1. _____, which is called a subphylum here for convenience, but which called a phylum in some texts, is an extremely ancient group of arthropods, including the extinct Eurypterida.
- A. Metaphidippus
 - B. Mites and ticks
 - C. Crabs
 - D. Arthropod groups
 - E. The Chelicerata
 - F. None of the Above

Spider Introduction

2. On the underside of the head (the cephalic part of the cephalothorax) are two pairs of appendages, the anterior pair called _____, and the second pair pedipalps, with which the spider captures and paralyzes its prey, injecting into it venom produced in the poison glands.
- A. Digestive gland
 - B. Cephalothorax
 - C. Pedipalp(s)
 - D. Chelicerae
 - E. Poison gland(s)
 - F. None of the Above

Spider's Life Biology

3. Spiders range in size from less than 1.0 mm (0.04 in) to more than 10 cm (4 in) in length, with a leg span of up to 20 cm (8 in). A spider's body is divided into two parts: the front portion, called the _____ or cephalothorax, and the rear portion, called the opisthosoma or abdomen. A narrow stalk called the pedicel connects these two parts.
- A. Digestive gland
 - B. Cuticle
 - C. Pedipalp(s)
 - D. Prosoma
 - E. Poison gland(s)
 - F. None of the Above

Poison Glands

4. Most spiders have a pair of poison glands that lie within the cephalothorax. Each bulblike poison gland produces and stores toxin. A muscle spirals around the gland. When this muscle contracts, it squeezes poison from the gland through a duct into the fangs of the _____, which then pass the poison into the prey.
- A. Chelicerae
 - B. Cephalothorax
 - C. Pedipalp(s)
 - D. Cephalothorax cuticle
 - E. Poison gland(s)
 - F. None of the Above

Spider Reproduction

5. All species of spiders have two separate sexes, and the males are usually smaller than the females. The male spider has two sperm-producing testes. A sexually mature male spider uses its large palps to transfer sperm cells into the female during mating. In this process, the male builds a small, triangular sperm web, onto which he deposits _____.
- A. Pheromones
 - B. A drop of sperm from his abdomen
 - C. Egg cells or Eggs
 - D. Vibrations
 - E. Female's egg cells
 - F. None of the Above

Life Cycle

6. The life cycle of the spider consists of four stages: egg, larva, young spider, (known as a nymph or spiderling), and _____. Like insects, spiders grow only by molting, a process that involves periodically shedding their exoskeleton. In each molting stage, young spiderlings resemble tiny adults, a process known as incomplete metamorphosis.

- A. Cocoon
- B. Egg cells or Eggs
- C. Adult
- D. Larvae
- E. Nymph
- F. None of the Above

Development and Growth

7. In order to grow to an adult size, spiderlings undergo a series of molts that enables them to increase in size. During molting, the _____ slowly lifts off, while a thin new cuticle forms underneath. The new cuticle is wrinkled and pliable at first, but as molting progresses and the spiderling grows, the new cuticle stretches to accommodate the larger spiderling body.

- A. Chelicerae
- B. Cephalothorax
- C. Pedipalp(s)
- D. Cephalothorax cuticle
- E. Old cuticle
- F. None of the Above

Types of Spider Webs

8. Many spider webs are found near the ground or in low vegetation, although orb webs often span the open spaces between bushes or trees in order to trap flying insects. The size of a web depends on the size of the spider. Whether the web has _____ depends on the size of the prey the spider expects to capture.

- A. Silk web(s)
- B. Horizontal silk sheet with a dome
- C. A tight or wide mesh
- D. Raised tube in the corner
- E. Flimsy webs
- F. None of the Above

Web Building

9. The spider then climbs to the midpoint of the Y-structure, known as the hub, and begins creating radius lines, or spokes, around the web. As the spider builds radius lines, it connects these lines with a few narrow circles of thread in the center of the web that forms the auxiliary spiral. _____ prevents radius lines from sagging when the spider walks on them. Using the auxiliary spiral as scaffolding, the spider begins the formation of the catching spiral, fastening sticky threads to each radius line. As the spider constructs the catching spiral, it dismantles the auxiliary spiral.

- A. The auxiliary spiral
- B. A complex process
- C. Spinning a thread
- D. Forming a Y-shaped structure
- E. The initial three center spiral threads
- F. None of the Above

Constructing an Orb Web

10. Once the web is completed, the spider will chew of the initial three center spiral threads then sit and wait for its prey. During construction, if the web becomes broken but without structural damage, the spider will not initially attempt to fix the problem. After having made the web, the spider will wait on or near the web for its prey to fall victim to its sticky trap. Once its prey has become trapped, the spider will _____ from the impact and then the struggle.

- A. Initially feel the vibrations
- B. A complex process
- C. Spinning a thread
- D. Form a Y-shaped structure
- E. Chew of the initial three center spiral threads
- F. None of the Above

Topic 2 Spider Identification Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

Two Primary Spider Groups

1. _____ construct webs in rather quiet, undisturbed places to capture their food. They live in or near their web and wait for food to come to them. They generally have poor eyesight and rely on sensing vibrations in their web to detect prey.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. Web-building spiders
- F. None of the Above

Jumping Spiders

2. Are common spiders outdoors and indoors. They are active during the day and are often found around windows, ceilings, walls, and other areas exposed to sunlight. _____ are generally small to medium-sized (about 1/5 - 1/2 inch long) and compact-looking. They are usually dark-colored with white markings, although some can be brightly colored, including some with iridescent mouthparts.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Ground Spiders

Crab Spider

3. _____ are dark or tan; some are lightly colored orange, yellow or creamy white. Their legs extend out from their sides causing them to scuttle back and forth in a crab-like fashion. These spiders hide in flower blossoms and may be brought inside in cut flowers.

- A. Small crab spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Black Widow Spider

4. The female _____ rarely leaves her web. The web she constructs is an irregular, tangled, crisscross web of rather coarse silk. The core of the web is almost funnel shaped, woven into a silken tunnel in which the female spider spends the majority of her daylight hours.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Black widow spider(s)
- F. None of the Above

Cyphophthalmi

5. The Cyphophthalmi are a suborder of harvestmen, with about 36 genera, and more than hundred described species. The six families are currently grouped into two infraorders, the Tropicophthalmi and the Temperophthalmi; however, these are not supported by modern phylogenetic analysis. They are smaller than the more familiar _____, with adults ranging from 1 to 6mm, including legs.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

6. Bites most often occur when the spider is engaging in defense while trapped against the skin, such as when the person is putting on clothes the recluse is inside of, or when the person while sleeping rolls over against the recluse. However, bug spray and other chemicals intended to repel or kill arthropods that do not kill the recluse will cause its nervous system to break down partially, inducing_____.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation develop(s)
- E. Undesirable aggressive behavior
- F. None of the Above

Mygalomorphae

7. Almost all species of Mygalomorphae have eight eyes, however there are some with fewer (*Masteria lewisi* has only six eyes). They have ample venom glands that lie entirely within their chelicerae, but only spiders of the _____ can be really harmful to humans. Their chelicerae and fangs are large and powerful. Occasionally members of this suborder will even kill small fish, small mammals, and the like. While the world's biggest spiders are mygalomorphs - *Theraphosa blondi* (Latreille, 1804) has a body length of 10 cm, and a leg span of 28 cm - some species are less than one millimeter long.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Australian genus *Atrax*
- F. None of the Above

8. Unlike Araneomorphae, which die after about a year, _____ can live for up to 25 years, and some don't reach maturity until they are about six years old. Some flies in the family Acroceridae which are endoparasites of mygalomorphs may remain dormant in the book lungs for as long as 20 years before beginning their development and consuming the spider.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. *Theraphosa blondi*
- F. None of the Above

Solifugae (Sun Spiders or Wind Scorpions)

9. _____ is an order of Arachnida, known as camel spiders, wind scorpions or sun spiders, comprising more than 1,000 described species in about 153 genera. They may grow to a length of 15 cm (6 in) including legs, and have a body comprising an opisthosoma (abdomen) and a prosoma (head) with conspicuously large chelicerae, which are also used for stridulation. Most species live in deserts and feed opportunistically on ground-dwelling arthropods and other animals.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. *Theraphosa blondi*
- F. None of the Above

Vinegarroons

10. Vinegarroons have no venom glands, but they do have glands near the rear of their abdomen that can _____ when they are bothered. The acetic acid gives this spray a vinegar-like smell, giving rise to the common name vinegarroon.

- A. Have a painless bite
- B. Nasty bite
- C. Have a little spider-like venom
- D. Make a burning sensation
- E. Bite(s)
- F. None of the Above

Topic 3 Web Spiders Section

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Orb Weaving Spiders

1. Venom toxicity - the bite of _____ is of low risk (not toxic) to humans. They are a non-aggressive group of spiders, seldom bite. Be careful not to walk into their webs at night - the fright of this spider crawling over one's face can be terrifying and may cause a heart attack, particularly to the susceptible over 40 year olds.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

Trap-Door Spiders

2. Venom toxicity - the bite of the _____ is of low risk (non-toxic) to humans. It is a non-aggressive spider - usually timid but may stand up and present its fangs if harassed. Rarely bites - but if so it can be painful.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

House Spider

3. _____ are found throughout Europe and North America. This spider is so named because its horizontal sheet web is often seen in wall corners of houses, but it can also be found in any cool, dark place, such as dense vegetation or crevices of logs or rocks. The spider's web forms a tube, and the narrowed end serves as a retreat where the spider can hide. When an insect walks over the sheet web, the spider immediately rushes out from the funnel, grabs its victim, and delivers a poisonous bite. The spider then carries its prey back to its retreat, where it begins to feed.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

Garden Spiders

4. Garden spiders belong to the family Araneidae, a group of 2,500 different species of spiders that weave orb, or circular, webs. Marked with varying shades of brown, _____ have a distinctive white cross on their abdomens, and some people refer to them as cross spiders. They are found throughout the continental United States, Canada, and Mexico. Some species are found in Europe and Hawaii.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Hobo Spider Information

5. The hobo spider is a member of the funnel-web spider family _____. Funnel-web spiders are long-legged, swift-running spiders that build funnel or tube-shaped retreats. The hobo spider runs at an average speed of about 0.45 meters (17 inches) per second, with a maximum speed of about 1.1 meters (40 inches) per second.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Spider Bite Section

6. All spiders (except the family _____) have venom glands, but not all are venomous to man. In fact very few species pose a threat to man. Some spider bites might need medical attention even if the species is recognized as not being venomous to man, as secondary infections can occur.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

7. Spider venom, like _____, is generally either neurotoxic or cytotoxic. Generally, it is the web dwellers that have neurotoxic venom, and the non-web dwellers have the cytotoxic venom.

- A. A painless bite
- B. A nasty bite
- C. Scorpion venom
- D. A burning sensation
- E. Snakebite venom
- F. None of the Above

8. A pale or blanched area may surround the discolored reddened area. The blister may rupture, leaving an open ulcer. In severe cases the ulcer can become deep and infected causing _____. Worsening pain, itching and a burning sensation develop. A patient may also have symptoms such as a red, itchy rash over the torso, arms and legs that is usually seen in the first 24-72 hours. Patients may have pain in the muscles and joints, fever, chills, swollen lymph nodes, headaches, and nausea and vomiting.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation
- E. Tissue breakdown or tissue death (necrosis)
- F. None of the Above

9. Cytotoxic venom affects the cellular tissue, usually restricted to the area of the bite, but it can spread. The bite is at first painless, with symptoms developing about 2 to 8 hours after the bite. It starts by resembling a mosquito sting, becoming more painful and swollen. Eventually it ulcerates into a large surface lesion (up to 10 centimeters) that will require medical attention. This type of bite would result from members of the genera *Loxosceles* (family Sicariidae) and _____ (family Miturgidae).

- A. Cheiracanthium
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Jumping Spiders

10. The _____ is probably the most common biting spider in the United States. People are caught by surprise and scared when they see the spider jump, especially if it jumps towards them. Bites from a jumping spider are painful, itchy and cause redness and significant swelling. Other symptoms may include painful muscles and joints, headache, fever, chills, nausea and vomiting. The symptoms usually last about 1-4 days.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Topic 4 Spider Control Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

1. Remove rocks, wood piles, compost piles, old boards, and other sheltering sites adjacent to the home. Eliminate migration of spiders into homes by _____ around the foundation. Make sure all screens and doors are sealed tight.

- A. Good screening
- B. Vacuuming spiders
- C. Spraying chemical
- D. Seal cracks in the foundation
- E. Caulking cracks and crevices
- F. None of the Above

2. _____ can be used to control spiders when applied to corners and other sites where spiders tend to breed.

- A. Good screening
- B. Vacuuming spiders
- C. Spraying chemical
- D. Seal cracks in the foundation
- E. Residual insecticides
- F. None of the Above

3. _____, containing pyrethrins, probably will have little effect on spiders.

- A. Good screening
- B. Vacuuming spiders
- C. Spraying chemical
- D. Total release foggers
- E. A combination of sanitation and pesticides
- F. None of the Above

Biological Control: Natural Spider Control

4. When spiders (or any creature blessed with an exoskeleton) walk over a thin layer of _____, they leak fluids, dehydrate, and die.

- A. DE
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

Natural spider repellents

5. Though you won't find much research to back them up, there are a variety of popular natural spider repellents. Of these, the most widely-used are _____, which can be found in the produce section of some grocery stores (you can ask your grocer to order some). You place them in corners of rooms and windows and apparently spiders don't like this.

- A. Osage hedge balls
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Pyrethrins, pipernyl butoxide, and silica gel
- E. Esfenvalerate
- F. None of the Above

Chemical Control: Spider control products

6. When it comes to chemical spider control, more important than what you use is how you use it. First of all, _____ alone won't solve your problem; if you don't make the changes listed above, your property will still have the same spider population potential.

- A. Osage hedge balls
- B. Chemicals
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

For outdoor spider control

7. Barrier treatments, in conjunction with pest proofing, can effectively protect your home from spiders. Before sealing off cracks and crevices in siding and foundation, apply something like _____ or Drione Dust (pyrethrins, pipernyl butoxide, and silica gel).

- A. Bifenthrin
- B. Fenvalerate
- C. Esfenvalerate
- D. Delta Dust Insecticide (deltamethrin)
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

Esfenvalerate

8. Trade names for the older compound fenvalerate included Ectrin, Sanmarton, Sumifly, Sumiflower, Sumitick and Pydrin. The trade name for the new product, Esfenvalerate, is Asana XL. The compound may also be listed as _____.

- A. Focused manner
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

9. _____ is an insecticide of moderate mammalian toxicity. In laboratory animals, central nervous system toxicity is observed following acute or long-term exposure.

- A. Esfenvalerate
- B. S-fenvalerate
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

Pyrethroids

10. To mimic the insecticidal activity of the natural compound _____ another class of pesticides, pyrethroid pesticides, has been developed. These are non-persistent, which is a sodium channel modulators, and are much less acutely toxic than organophosphates and carbamates. Compounds in this group are often applied against household pests.

- A. Pyrethrum
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

2017 Changes to EPA's Farm Worker Protection Standard

In late 2015 the Environmental Protection Agency issued the long awaited revision to the Worker Protection Standard (WPS). Although it is now technically active it will not be enforced until 2017 but the original WPS will still be enforced until the end of 2016. Please keep in mind that the WPS covers both restricted use AND general use pesticides.

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Spider Control CEU Conventional Assignment #2

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Write your answers on the Answer Key found in the front section of this assignment.

Topic 1 Arachnid Introduction Section

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1. There are eleven orders of _____. These include the scorpions; mites and ticks; harvestmen; pseudoscorpions; whipscorpions; solpugids; and spiders. It's like the relation of beetles with insects: beetles constitute one order of insects, the Coleoptera, but not all insects are beetles. Similarly, not all arachnids are spiders.

- A. Metaphidippus
- B. Mites and ticks
- C. Crabs
- D. Arthropods
- E. Spiders
- F. None of the Above

2. _____ includes spiders and scorpions, mites and ticks, horseshoe crabs, daddy-longlegs, and extinct "sea-scorpions", to name a few. It is the second most prominent order of terrestrial arthropods, after the uniramians.

- A. The Chelicerata
- B. Mites and ticks
- C. Crabs
- D. Arthropods
- E. Spiders
- F. None of the Above

Spider Introduction

3. The spider then liquefies the tissues of the prey with a digestive fluid and sucks this broth into its _____, where it may be stored in a digestive gland. Breathing is by means of tracheae (air tubes) or book lungs, or both.

- A. Digestive gland
- B. Cephalothorax
- C. Pedipalp(s)
- D. Stomach
- E. Poison gland(s)
- F. None of the Above

Spider's Life Biology

4. The spider's cuticle provides attachment sites for many muscles, and it also prevents desiccation (loss of body water). The _____ is strong and stiff, while the cuticle of the abdomen is soft and extensible. As a spider grows, it sheds or molts its exoskeleton and grows a new one to cover its larger body.

- A. Chelicerae
- B. Cephalothorax
- C. Pedipalp(s)
- D. Cephalothorax cuticle
- E. Poison gland(s)
- F. None of the Above

Palps and Legs

5. Behind the chelicerae is a pair of palps, segmented limbs that are _____. Male spiders also use palps to transfer sperm to females during mating. Adjacent to the palps are four pairs of long, hairy legs. Unlike human hair, each spider hair found on the legs acts as a sensory organ, sensitive to touch and vibration.

- A. Contains body fluid
- B. Used to transfer sperm
- C. Sensitive to touch
- D. Seven jointed segments
- E. Acts as a sensory organ
- F. None of the Above

Spider Reproduction

6. All species of spiders have two separate sexes, and the males are usually smaller than the females. The male spider has two sperm-producing testes. A sexually mature male spider uses its large palps to transfer sperm cells into the female during mating. In this process, the male builds a small, triangular sperm web, onto which he deposits _____.

- A. Pheromones
- B. A drop of sperm from his abdomen
- C. Egg cells or Eggs
- D. Vibrations
- E. Female's egg cells
- F. None of the Above

Types of Spider Webs

7. Web patterns vary considerably, depending on the species of spider. Perhaps the most recognizable web is the almost circular orb web, in which an outer framework supports a continuous spiraling thread and a series of threads radiating from the center of the web. Other web types may have a more irregular shape. Some spiders build irregular, _____.

- A. Silk web(s)
- B. Horizontal silk sheet with a dome
- C. A tight or wide mesh
- D. Raised tube in the corner
- E. Flimsy webs
- F. None of the Above

Web Building

8. Spiders that weave orb webs generally begin by spinning a thread that is carried by _____ until it catches on a tree limb or other firm support. From this thread, the spider lays down another thread to form a Y-shaped structure that is the basic framework of the web.

- A. Silk glands or glands
- B. Horizontal silk sheets
- C. Threads radiating
- D. A raised tube in the corner
- E. Air currents
- F. None of the Above

Constructing an Orb Web

9. Once the web is completed, the spider will chew of the initial three center spiral threads then sit and wait for its prey. During construction, if the web becomes broken but without structural damage, the spider will not initially attempt to fix the problem. After having made the web, the spider will wait on or near the web for its prey to fall victim to its sticky trap. Once its prey has become trapped, the spider will _____ from the impact and then the struggle.

- A. Initially feel the vibrations
- B. A complex process
- C. Spinning a thread
- D. Form a Y-shaped structure
- E. Chew of the initial three center spiral threads
- F. None of the Above

Spider Web Uses

10. Some species of spiders do not use their webs for catching prey directly, some spiders pounce from hiding such as trapdoor spiders, or some chase down their prey such as the wolf spider. The Net casting spider _____.

- A. To sticking to them
- B. Uses both methods for catching its prey
- C. Helps remove spiders and their webs
- D. That weave orb webs
- E. May sit upside down with its legs placed in the center
- F. None of the Above

Topic 2 Spider Identification Section

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Two Primary Spider Groups

1. _____ construct webs in rather quiet, undisturbed places to capture their food. They live in or near their web and wait for food to come to them. They generally have poor eyesight and rely on sensing vibrations in their web to detect prey.
- A. Hobo spider(s) D. Pirate spider(s)
B. House spider(s) E. Web-building spiders
C. Orb-Weaving Spider(s) F. None of the Above

Jumping Spiders

2. Are common spiders outdoors and indoors. They are active during the day and are often found around windows, ceilings, walls, and other areas exposed to sunlight. _____ are generally small to medium-sized (about 1/5 - 1/2 inch long) and compact-looking. They are usually dark-colored with white markings, although some can be brightly colored, including some with iridescent mouthparts.
- A. Brown recluse spider(s) D. Garden spider(s)
B. Jumping spider(s) E. Hobo spider(s)
C. Trap-Door Spider(s) F. None of the Above

Ground Spiders

Crab Spider

3. _____ are dark or tan; some are lightly colored orange, yellow or creamy white. Their legs extend out from their sides causing them to scuttle back and forth in a crab-like fashion. These spiders hide in flower blossoms and may be brought inside in cut flowers.
- A. Small crab spider(s) D. Garden spider(s)
B. Jumping spider(s) E. Hobo spider(s)
C. Trap-Door Spider(s) F. None of the Above

Brown Recluse Spider

4. The most definitive physical feature of _____ is their eyes: most spiders have eight eyes that typically are arranged in two rows of four, but recluse spiders have six equal-sized eyes arranged in three pairs, called dyads. There is a dyad at the front of the cephalothorax (the first main body part to which the legs attach) and another dyad on each side, further back.
- A. Recluse spider(s) D. Garden spider(s)
B. Jumping spider(s) E. Hobo spider(s)
C. Trap-Door Spider(s) F. None of the Above

Cyphophthalmi

5. The six families are currently grouped into two infraorders, the Tropicophthalmi and the Temperophthalmi; however, these are not supported by modern phylogenetic analysis. They are smaller than the more familiar _____, with adults ranging from 1 to 6mm, including legs.
- A. Hobo spider(s) D. Pirate spider(s)
B. House spider(s) E. All spiders
C. Orb-Weaving Spider(s) F. None of the Above

Mygalomorphae

6. The Mygalomorphae, (also called the Orthognatha), are an infraorder of spiders. The latter name comes from the orientation of the fangs which point straight down and do not cross each other (as opposed to _____).
- A. Solifugae D. Mygalomorphae
B. Australasian funnel-web spiders E. Theraphosa blondi
C. Araneomorph F. None of the Above

7. Almost all species of Mygalomorphae have eight eyes, however there are some with fewer (Masteria lewisi has only six eyes). They have ample venom glands that lie entirely within their chelicerae, but only spiders of the _____ can be really harmful to humans. Their chelicerae and fangs are large and powerful. Occasionally members of this suborder will even kill small fish, small mammals, and the like. While the world's biggest spiders are mygalomorphs - Theraphosa blondi (Latreille, 1804) has a body length of 10 cm, and a leg span of 28 cm - some species are less than one millimeter long.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Australian genus Atrax
- F. None of the Above

8. Unlike Araneomorphae, which die after about a year, _____ can live for up to 25 years, and some don't reach maturity until they are about six years old. Some flies in the family Acroceridae which are endoparasites of mygalomorphs may remain dormant in the book lungs for as long as 20 years before beginning their development and consuming the spider.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

Solifugae (Sun Spiders or Wind Scorpions)

9. _____ is an order of Arachnida, known as camel spiders, wind scorpions or sun spiders, comprising more than 1,000 described species in about 153 genera. They may grow to a length of 15 cm (6 in) including legs, and have a body comprising an opisthosoma (abdomen) and a prosoma (head) with conspicuously large chelicerae, which are also used for stridulation. Most species live in deserts and feed opportunistically on ground-dwelling arthropods and other animals.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

Vinegarroons

10. Vinegarroons have no venom glands, but they do have glands near the rear of their abdomen that can _____ when they are bothered. The acetic acid gives this spray a vinegar-like smell, giving rise to the common name vinegarroon.

- A. Have a painless bite
- B. Nasty bite
- C. Have a little spider-like venom
- D. Make a burning sensation
- E. Bite(s)
- F. None of the Above

Topic 3 Web Spiders Section

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Orb Weaving Spiders

1. Venom toxicity - the bite of _____ is of low risk (not toxic) to humans. They are a non-aggressive group of spiders, seldom bite. Be careful not to walk into their webs at night - the fright of this spider crawling over one's face can be terrifying and may cause a heart attack, particularly to the susceptible over 40 year olds.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

Trap-Door Spiders

2. Venom toxicity - the bite of the _____ is of low risk (non-toxic) to humans. It is a non-aggressive spider - usually timid but may stand up and present its fangs if harassed. Rarely bites - but if so it can be painful.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

House Spider

3. _____ are found throughout Europe and North America. This spider is so named because its horizontal sheet web is often seen in wall corners of houses, but it can also be found in any cool, dark place, such as dense vegetation or crevices of logs or rocks.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

Garden Spiders

4. Garden spiders belong to the family Araneidae, a group of 2,500 different species of spiders that weave orb, or circular, webs. Marked with varying shades of brown, _____ have a distinctive white cross on their abdomens, and some people refer to them as cross spiders. They are found throughout the continental United States, Canada, and Mexico. Some species are found in Europe and Hawaii.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Hobo Spider Information

5. The hobo spider is a member of the funnel-web spider family _____. Funnel-web spiders are long-legged, swift-running spiders that build funnel or tube-shaped retreats. The hobo spider runs at an average speed of about 0.45 meters (17 inches) per second, with a maximum speed of about 1.1 meters (40 inches) per second.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Spider Bite Section

6. All spiders (except the family _____) have venom glands, but not all are venomous to man. In fact very few species pose a threat to man. Some spider bites might need medical attention even if the species is recognized as not being venomous to man, as secondary infections can occur.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

7. Spider venom, like _____, is generally either neurotoxic or cytotoxic. Generally, it is the web dwellers that have neurotoxic venom, and the non-web dwellers have the cytotoxic venom.

- A. A painless bite
- B. A nasty bite
- C. Scorpion venom
- D. A burning sensation
- E. Snakebite venom
- F. None of the Above

8. A pale or blanched area may surround the discolored reddened area. The blister may rupture, leaving an open ulcer. In severe cases the ulcer can become deep and infected causing _____. Worsening pain, itching and a burning sensation develop. A patient may also have symptoms such as a red, itchy rash over the torso, arms and legs that is usually seen in the first 24-72 hours. Patients may have pain in the muscles and joints, fever, chills, swollen lymph nodes, headaches, and nausea and vomiting.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation
- E. Tissue breakdown or tissue death (necrosis)
- F. None of the Above

9. Cytotoxic venom affects the cellular tissue, usually restricted to the area of the bite, but it can spread. The bite is at first painless, with symptoms developing about 2 to 8 hours after the bite. It starts by resembling a mosquito sting, becoming more painful and swollen. Eventually it ulcerates into a large surface lesion (up to 10 centimeters) that will require medical attention. This type of bite would result from members of the genera *Loxosceles* (family Sicariidae) and _____ (family Miturgidae).

- A. Cheiracanthium
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Jumping Spiders

10. The _____ is probably the most common biting spider in the United States. People are caught by surprise and scared when they see the spider jump, especially if it jumps towards them. Bites from a jumping spider are painful, itchy and cause redness and significant swelling. Other symptoms may include painful muscles and joints, headache, fever, chills, nausea and vomiting. The symptoms usually last about 1-4 days.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Topic 4 Spider Control Section

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1. Occasional spiders can be removed by _____ or with a vacuum. Sticky traps, used to control cockroaches and rodents, can capture spiders when placed along baseboards or other migration areas.

- A. Sticky traps
- B. Total release foggers
- C. Pesticides alone
- D. Hand (wear gloves or grasp the spider with a tissue)
- E. A combination of sanitation and pesticides
- F. None of the Above

Natural spider repellents

2. Though you won't find much research to back them up, there are a variety of popular natural spider repellents. Of these, the most widely-used are _____, which can be found in the produce section of some grocery stores (you can ask your grocer to order some). You place them in corners of rooms and windows and apparently spiders don't like this.

- A. Osage hedge balls
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Pyrethrins, pipernyl butoxide, and silica gel
- E. Esfenvalerate
- F. None of the Above

3. _____ and eucalyptus are other popular spider repellents that are used in the same manner.

- A. Osage hedge balls
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Horse chestnuts
- F. None of the Above

Chemical Control: Spider control products

4. First of all, _____ alone won't solve your problem; if you don't make the changes listed above, your property will still have the same spider population potential.

- A. Osage hedge balls
- B. Chemicals
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

5. Secondly, use chemicals in a focused manner, not _____. Lastly, always pay close attention to directions when dealing with pesticides. They are only deemed safe by the EPA when used according to the label.

- A. Focused manner
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

Esfenvalerate

6. Trade names for the older compound fenvalerate included Ectrin, Sanmarton, Sumifly, Sumiflower, Sumitick and Pydrin. The trade name for the new product, Esfenvalerate, is Asana XL. The compound may also be listed as _____.

- A. Focused manner
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

7. _____ is an insecticide. It is a mixture of four optical isomers which have different insecticidal activities. The 2-S alpha (or SS) configuration is the most insecticidally active isomer. Fenvalerate consists of about 23% of this isomer.

- A. Esfenvalerate
- B. S-fenvalerate
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

8. _____ has applications against a wide range of pests. Residue levels are minimized by low application rates.

- A. Esfenvalerate
- B. S-fenvalerate
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

Pyrethroids

9. The pyrethroids are a large family of modern synthetic insecticides similar to the _____.

- A. Naturally derived botanical pyrethrins
- B. Fenvalerate
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

10. _____ are formulated as emulsifiable concentrates (EC), wettable powders (WP), granulars (G), and aerosols.

- A. Pyrethroid(s)
- B. Fenvalerate
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of

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Topic 1 Arachnid Introduction Section

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1. In order to grow to an adult size, spiderlings undergo a series of molts that enables them to increase in size. During molting, the _____ slowly lifts off, while a thin new cuticle forms underneath. The new cuticle is wrinkled and pliable at first, but as molting progresses and the spiderling grows, the new cuticle stretches to accommodate the larger spiderling body.

- A. Chelicerae
- B. Cephalothorax
- C. Pedipalp(s)
- D. Cephalothorax cuticle
- E. Old cuticle
- F. None of the Above

Types of Spider Webs

2. Web patterns vary considerably, depending on the species of spider. Perhaps the most recognizable web is the almost circular orb web, in which an outer framework supports a continuous spiraling thread and a series of threads radiating from the center of the web. Other web types may have a more irregular shape. Some spiders build irregular, _____.

- A. Silk web(s)
- B. Horizontal silk sheet with a dome
- C. A tight or wide mesh
- D. Raised tube in the corner
- E. Flimsy webs
- F. None of the Above

Web Building

3. _____ prevents radius lines from sagging when the spider walks on them. Using the auxiliary spiral as scaffolding, the spider begins the formation of the catching spiral, fastening sticky threads to each radius line. As the spider constructs the catching spiral, it dismantles the auxiliary spiral.

- A. The auxiliary spiral
- B. A complex process
- C. Spinning a thread
- D. Forming a Y-shaped structure
- E. The initial three center spiral threads
- F. None of the Above

4. The spider may sit upside down with its legs placed in the center of its web to detect vibrations in the web when prey gets caught in the sticky catching _____. Others may hide nearby under a curled leaf and use the vibrations from a signal thread attached to the hub to stay informed when prey has struck the web. The orb web is built anew every day. Some species eat their old web before starting a new web, while others roll up the web and discard it as a tiny silk ball.

- A. To sticking to them
- B. Uses both methods for catching its prey
- C. Spiral
- D. That weave orb webs
- E. And sit upside down with its legs placed in the center
- F. None of the Above

Constructing an Orb Web

5. Once the web is completed, the spider will chew of the initial three center spiral threads then sit and wait for its prey. During construction, if the web becomes broken but without structural damage, the spider will not initially attempt to fix the problem. After having made the web, the spider will wait on or near the web for its prey to fall victim to its sticky trap. Once its prey has become trapped, the spider will _____ from the impact and then the struggle.

- A. Initially feel the vibrations
- B. A complex process
- C. Spinning a thread
- D. Form a Y-shaped structure
- E. Chew of the initial three center spiral threads
- F. None of the Above

6. A spider that positions its self at the center of the web is very visible to predators such as birds; many orb web spiders that hunt during the day will reduce this risk by hiding at the edge of its web, with _____.

- A. Completely relying
- B. A complex process
- C. Spinning a thread
- D. Forming a Y-shaped structure
- E. Chew of the initial three center spiral threads
- F. None of the Above

Spider Web Uses

7. The Net casting spider will weave a _____ that it attaches to its front legs, it will then lurk in wait for potential prey, when potential prey comes along, and the spider will lunge forward at its prey and wrap its victim in the net, followed by biting and paralyzing its victim. Using this technique, the Net casting spiders' uses less energy. They don't loss energy building a whole web and they don't loss energy from chasing down prey.

- A. Silk glands or glands
- B. Horizontal silk sheet with a dome
- C. Small net
- D. Raised tube in the corner
- E. Vary considerably
- F. None of the Above

Spider Prevention and Non-Chemical Control

8. Regular vacuuming or _____ of windows, corners of rooms, storage areas, basements, and other seldom used areas helps remove spiders and their webs.

- A. Good screening
- B. Sweeping
- C. Spraying chemical
- D. Sealing cracks
- E. Flaming
- F. None of the Above

9. _____ spiders can be an effective control technique because their soft bodies usually do not survive this process.

- A. Good screening
- B. Sweeping
- C. Spraying chemical
- D. Vacuuming
- E. Flaming
- F. None of the Above

10. _____ not only will keep out many spiders but also will discourage them by keeping out insects that they must have for food.

- A. Good screening
- B. Vacuuming spiders
- C. Spraying chemical
- D. Sealing cracks in the foundation
- E. Sweeping
- F. None of the Above

Topic 2 Spider Identification Section

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Two Primary Spider Groups

1. _____ construct webs in rather quiet, undisturbed places to capture their food. They live in or near their web and wait for food to come to them. They generally have poor eyesight and rely on sensing vibrations in their web to detect prey.

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- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. Web-building spiders
- F. None of the Above

Jumping Spiders

2. Are common spiders outdoors and indoors. They are active during the day and are often found around windows, ceilings, walls, and other areas exposed to sunlight. _____ are generally small to medium-sized (about 1/5 - 1/2 inch long) and compact-looking. They are usually dark-colored with white markings, although some can be brightly colored, including some with iridescent mouthparts.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Ground Spiders

Crab Spider

3. _____ are dark or tan; some are lightly colored orange, yellow or creamy white. Their legs extend out from their sides causing them to scuttle back and forth in a crab-like fashion. These spiders hide in flower blossoms and may be brought inside in cut flowers.

- A. Small crab spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Black Widow Spider

4. The female _____ rarely leaves her web. The web she constructs is an irregular, tangled, crisscross web of rather coarse silk. The core of the web is almost funnel shaped, woven into a silken tunnel in which the female spider spends the majority of her daylight hours.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Black widow spider(s)
- F. None of the Above

Cyphophthalmi

5. The Cyphophthalmi are a suborder of harvestmen, with about 36 genera, and more than hundred described species. The six families are currently grouped into two infraorders, the Tropicophthalmi and the Temperophthalmi; however, these are not supported by modern phylogenetic analysis. They are smaller than the more familiar _____, with adults ranging from 1 to 6mm, including legs.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

6. Bites most often occur when the spider is engaging in defense while trapped against the skin, such as when the person is putting on clothes the recluse is inside of, or when the person while sleeping rolls over against the recluse. However, bug spray and other chemicals intended to repel or kill arthropods that do not kill the recluse will cause its nervous system to break down partially, inducing_____.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation develop(s)
- E. Undesirable aggressive behavior
- F. None of the Above

Mygalomorphae

7. Almost all species of Mygalomorphae have eight eyes, however there are some with fewer (Masteria lewisi has only six eyes). They have ample venom glands that lie entirely within their chelicerae, but only spiders of the _____ can be really harmful to humans. Their chelicerae and fangs are large and powerful. Occasionally members of this suborder will even kill small fish, small mammals, and the like. While the world's biggest spiders are mygalomorphs - Theraphosa blondi (Latreille, 1804) has a body length of 10 cm, and a leg span of 28 cm - some species are less than one millimeter long.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Australian genus Atrax
- F. None of the Above

8. Unlike Araneomorphae, which die after about a year, _____ can live for up to 25 years, and some don't reach maturity until they are about six years old. Some flies in the family Acroceridae which are endoparasites of mygalomorphs may remain dormant in the book lungs for as long as 20 years before beginning their development and consuming the spider.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

Solifugae (Sun Spiders or Wind Scorpions)

9. _____ is an order of Arachnida, known as camel spiders, wind scorpions or sun spiders, comprising more than 1,000 described species in about 153 genera. They may grow to a length of 15 cm (6 in) including legs, and have a body comprising an opisthosoma (abdomen) and a prosoma (head) with conspicuously large chelicerae, which are also used for stridulation.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

Vinegarroons

10. Vinegarroons have no venom glands, but they do have glands near the rear of their abdomen that can _____ when they are bothered. The acetic acid gives this spray a vinegar-like smell, giving rise to the common name vinegarroon.

- A. Have a painless bite
- B. Nasty bite
- C. Have a little spider-like venom
- D. Make a burning sensation
- E. Bite(s)
- F. None of the Above

Topic 3 Web Spiders Section

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Orb Weaving Spiders

1. Venom toxicity - the bite of _____ is of low risk (not toxic) to humans. They are a non-aggressive group of spiders, seldom bite. Be careful not to walk into their webs at night - the fright of this spider crawling over one's face can be terrifying and may cause a heart attack, particularly to the susceptible over 40 year olds.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

Trap-Door Spiders

2. Venom toxicity - the bite of the _____ is of low risk (non-toxic) to humans. It is a non-aggressive spider - usually timid but may stand up and present its fangs if harassed. Rarely bites - but if so it can be painful.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

House Spider

3. _____ are found throughout Europe and North America. This spider is so named because its horizontal sheet web is often seen in wall corners of houses, but it can also be found in any cool, dark place, such as dense vegetation or crevices of logs or rocks. The spider's web forms a tube, and the narrowed end serves as a retreat where the spider can hide. When an insect walks over the sheet web, the spider immediately rushes out from the funnel, grabs its victim, and delivers a poisonous bite. The spider then carries its prey back to its retreat, where it begins to feed.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

Garden Spiders

4. Garden spiders belong to the family Araneidae, a group of 2,500 different species of spiders that weave orb, or circular, webs. Marked with varying shades of brown, _____ have a distinctive white cross on their abdomens, and some people refer to them as cross spiders. They are found throughout the continental United States, Canada, and Mexico. Some species are found in Europe and Hawaii.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Hobo Spider Information

5. The hobo spider is a member of the funnel-web spider family _____. Funnel-web spiders are long-legged, swift-running spiders that build funnel or tube-shaped retreats. The hobo spider runs at an average speed of about 0.45 meters (17 inches) per second, with a maximum speed of about 1.1 meters (40 inches) per second.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Spider Bite Section

6. All spiders (except the family _____) have venom glands, but not all are venomous to man. In fact very few species pose a threat to man. Some spider bites might need medical attention even if the species is recognized as not being venomous to man, as secondary infections can occur.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

7. Spider venom, like _____, is generally either neurotoxic or cytotoxic. Generally, it is the web dwellers that have neurotoxic venom, and the non-web dwellers have the cytotoxic venom.

- A. A painless bite
- B. A nasty bite
- C. Scorpion venom
- D. A burning sensation
- E. Snakebite venom
- F. None of the Above

8. A pale or blanched area may surround the discolored reddened area. The blister may rupture, leaving an open ulcer. In severe cases the ulcer can become deep and infected causing _____. Worsening pain, itching and a burning sensation develop. A patient may also have symptoms such as a red, itchy rash over the torso, arms and legs that is usually seen in the first 24-72 hours. Patients may have pain in the muscles and joints, fever, chills, swollen lymph nodes, headaches, and nausea and vomiting.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation
- E. Tissue breakdown or tissue death (necrosis)
- F. None of the Above

9. Cytotoxic venom affects the cellular tissue, usually restricted to the area of the bite, but it can spread. The bite is at first painless, with symptoms developing about 2 to 8 hours after the bite. It starts by resembling a mosquito sting, becoming more painful and swollen. Eventually it ulcerates into a large surface lesion (up to 10 centimeters) that will require medical attention. This type of bite would result from members of the genera *Loxosceles* (family Sicariidae) and _____ (family Miturgidae).

- A. Cheiracanthium
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Jumping Spiders

10. The _____ is probably the most common biting spider in the United States. People are caught by surprise and scared when they see the spider jump, especially if it jumps towards them. Bites from a jumping spider are painful, itchy and cause redness and significant swelling. Other symptoms may include painful muscles and joints, headache, fever, chills, nausea and vomiting. The symptoms usually last about 1-4 days.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Topic 4 Spider Control Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

1. _____ can be used to control spiders when applied to corners and other sites where spiders tend to breed.

- A. Good screening
- B. Vacuuming spiders
- C. Spraying chemical
- D. Seal cracks in the foundation
- E. Residual insecticides
- F. None of the Above

2. _____ products containing various pyrethroids (bifenthrin, cyfluthrin, permethrin, tetramethrin) are commonly available for this purpose and should be applied in accordance with the label's instructions.

- A. Household insecticide
- B. Total release foggers
- C. Pesticides alone
- D. Various pyrethroids
- E. A combination of sanitation and pesticides
- F. None of the Above

3. _____, containing pyrethrins, probably will have little effect on spiders.

- A. Good screening
- B. Vacuuming spiders
- C. Spraying chemical
- D. Total release foggers
- E. A combination of sanitation and pesticides
- F. None of the Above

Mechanical control: Spider traps and manual spider removal

4. Use _____ for spider control and monitoring. While sticky traps won't work for web-building spiders, they are outstanding for the many ground-dwelling, hunting spider species, including funnel-web, wolf, and brown recluse spiders. With glue boards, more is better. Place them along walls, in corners, behind furniture, and in dark, protected areas, in outbuildings and garages, in window sills and near doors, as well as places you've seen spider activity.

- A. Good screening
- B. Vacuuming
- C. Chemical
- D. Glue boards
- E. Traps
- F. None of the Above

Biological Control: Natural Spider Control

5. When spiders (or any creature blessed with an exoskeleton) walk over a thin layer of _____, they leak fluids, dehydrate, and die.

- A. DE
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

For outdoor spider control

6. Barrier treatments, in conjunction with pest proofing, can effectively protect your home from spiders. Before sealing off cracks and crevices in siding and foundation, apply something like _____ or Drione Dust (pyrethrins, pipernyl butoxide, and silica gel).

- A. Bifenthrin
- B. Fenvalerate
- C. Esfenvalerate
- D. Delta Dust Insecticide (deltamethrin)
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

7. Besides the cracks and crevices, you may want to treat under the eaves of the roof, under porches, along the base of the foundation, the lowest edge of siding, behind shutters, and around doors and windows. For these areas you'll want a non-dust outdoor insecticide for spider control. Good options are Bayer Advanced Home Pest Control: Indoor and Outdoor Insect Killer (cyfluthrin) and Ortho Home Defense Perimeter & Indoor Insect Killer (_____).

- A. Bifenthrin
- B. Fenvalerate
- C. Esfenvalerate
- D. Delta Dust Insecticide (deltamethrin)
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

Esfenvalerate

8. Trade names for the older compound fenvalerate included Ectrin, Sanmarton, Sumifly, Sumiflower, Sumitick and Pydrin. The trade name for the new product, Esfenvalerate, is Asana XL. The compound may also be listed as _____.

- A. Focused manner
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

9. _____ is most toxic to bees and fish. It is found in some emulsifiable concentrates, ULV, wettable powders, slow release formulations, insecticidal fogs, and granules. It is most commonly used to control insects in food, feed, and cotton products, and for the control of flies and ticks in barns and stables.

- A. Pyrethroid(s)
- B. Fenvalerate
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

Pyrethroids

10. To mimic the insecticidal activity of the natural compound _____ another class of pesticides, pyrethroid pesticides, has been developed. These are non-persistent, which is a sodium channel modulators, and are much less acutely toxic than organophosphates and carbamates. Compounds in this group are often applied against household pests.

- A. Pyrethrum
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

2017 Changes to EPA's Farm Worker Protection Standard

In late 2015 the Environmental Protection Agency issued the long awaited revision to the Worker Protection Standard (WPS). Although it is now technically active it will not be enforced until 2017 but the original WPS will still be enforced until the end of 2016. Please keep in mind that the WPS covers both restricted use AND general use pesticides.

This course contains EPA's federal rule requirements. Please be aware that each state implements pesticide regulations that may be more stringent than EPA's regulations and these frequently are changed. Check with your state environmental/pesticide agency for more information.

Spider Control CEU Conventional Assignment #4

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

Topic 1 Arachnid Introduction Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

1. There are eleven orders of _____. These include the scorpions; mites and ticks; harvestmen; pseudoscorpions; whipscorpions; solpugids; and spiders. It's like the relation of beetles with insects: beetles constitute one order of insects, the Coleoptera, but not all insects are beetles. Similarly, not all arachnids are spiders.

- A. Metaphidippus
- B. Mites and ticks
- C. Crabs
- D. Arthropods
- E. Spiders
- F. None of the Above

Chelicerata

2. _____, which is called a subphylum here for convenience, but which called a phylum in some texts, is an extremely ancient group of arthropods, including the extinct Eurypterida.

- A. Metaphidippus
- B. Mites and ticks
- C. Crabs
- D. Arthropod groups
- E. The Chelicerata
- F. None of the Above

Poison Glands

3. Most spiders have a pair of poison glands that lie within the cephalothorax. Each bulblike poison gland produces and stores toxin. A muscle spirals around the gland. When this muscle contracts, it squeezes poison from the gland through a duct into the fangs of the _____, which then pass the poison into the prey.

- A. Chelicerae
- B. Cephalothorax
- C. Pedipalp(s)
- D. Cephalothorax cuticle
- E. Poison gland(s)
- F. None of the Above

Palps and Legs

4. Behind the chelicerae is a pair of palps, segmented limbs that are _____. Male spiders also use palps to transfer sperm to females during mating. Adjacent to the palps are four pairs of long, hairy legs. Unlike human hair, each spider hair found on the legs acts as a sensory organ, sensitive to touch and vibration.

- A. Contains body fluid
- B. Used to transfer sperm
- C. Sensitive to touch
- D. Seven jointed segments
- E. Acts as a sensory organ
- F. None of the Above

Spider Reproduction

5. A sexually mature male spider uses its large palps to transfer sperm cells into the female during mating. In this process, the male builds a small, triangular sperm web, onto which he deposits_____.

- A. Pheromones
- B. A drop of sperm from his abdomen
- C. Egg cells or Eggs
- D. Vibrations
- E. Female's egg cells
- F. None of the Above

6. In order to grow to an adult size, spiderlings undergo a series of molts that enables them to increase in size. During molting, the _____ slowly lifts off, while a thin new cuticle forms underneath. The new cuticle is wrinkled and pliable at first, but as molting progresses and the spiderling grows, the new cuticle stretches to accommodate the larger spiderling body.

- A. Chelicerae
- B. Cephalothorax
- C. Pedipalp(s)
- D. Cephalothorax cuticle
- E. Old cuticle
- F. None of the Above

Types of Spider Webs

7. Web patterns vary considerably, depending on the species of spider. Perhaps the most recognizable web is the almost circular orb web, in which an outer framework supports a continuous spiraling thread and a series of threads radiating from the center of the web. Other web types may have a more irregular shape. Some spiders build irregular, _____.

- A. Silk web(s)
- B. Horizontal silk sheet with a dome
- C. A tight or wide mesh
- D. Raised tube in the corner
- E. Flimsy webs
- F. None of the Above

8. Many spider webs are found near the ground or in low vegetation, although orb webs often span the open spaces between bushes or trees in order to trap flying insects. The size of a web depends on the size of the spider. Whether the web has _____ depends on the size of the prey the spider expects to capture.

- A. Silk web(s)
- B. Horizontal silk sheet with a dome
- C. A tight or wide mesh
- D. Raised tube in the corner
- E. Flimsy webs
- F. None of the Above

Web Building

9. Spiders that weave orb webs generally begin by spinning a thread that is carried by _____ until it catches on a tree limb or other firm support. From this thread, the spider lays down another thread to form a Y-shaped structure that is the basic framework of the web.

- A. Silk glands or glands
- B. Horizontal silk sheets
- C. Threads radiating
- D. A raised tube in the corner
- E. Air currents
- F. None of the Above

Spider Prevention and Non-Chemical Control

10. Regular vacuuming or _____ of windows, corners of rooms, storage areas, basements, and other seldom used areas helps remove spiders and their webs.

- A. Good screening
- B. Sweeping
- C. Spraying chemical
- D. Sealing cracks
- E. Flaming
- F. None of the Above

Topic 2 Spider Identification Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

Two Primary Spider Groups

1. _____ construct webs in rather quiet, undisturbed places to capture their food. They live in or near their web and wait for food to come to them. They generally have poor eyesight and rely on sensing vibrations in their web to detect prey.
- A. Hobo spider(s) D. Pirate spider(s)
B. House spider(s) E. Web-building spiders
C. Orb-Weaving Spider(s) F. None of the Above

Jumping Spiders

2. Are common spiders outdoors and indoors. They are active during the day and are often found around windows, ceilings, walls, and other areas exposed to sunlight. _____ are generally small to medium-sized (about 1/5 - 1/2 inch long) and compact-looking. They are usually dark-colored with white markings, although some can be brightly colored, including some with iridescent mouthparts.
- A. Brown recluse spider(s) D. Garden spider(s)
B. Jumping spider(s) E. Hobo spider(s)
C. Trap-Door Spider(s) F. None of the Above

Ground Spiders

Crab Spider

3. _____ are dark or tan; some are lightly colored orange, yellow or creamy white. Their legs extend out from their sides causing them to scuttle back and forth in a crab-like fashion. These spiders hide in flower blossoms and may be brought inside in cut flowers.
- A. Small crab spider(s) D. Garden spider(s)
B. Jumping spider(s) E. Hobo spider(s)
C. Trap-Door Spider(s) F. None of the Above

Brown Recluse Spider

4. The most definitive physical feature of _____ is their eyes: most spiders have eight eyes that typically are arranged in two rows of four, but recluse spiders have six equal-sized eyes arranged in three pairs, called dyads.
- A. Recluse spider(s) D. Garden spider(s)
B. Jumping spider(s) E. Hobo spider(s)
C. Trap-Door Spider(s) F. None of the Above

Cyphophthalmi

5. The Cyphophthalmi are a suborder of harvestmen, with about 36 genera, and more than hundred described species. The six families are currently grouped into two infraorders, the Tropicophthalmi and the Temperophthalmi; however, these are not supported by modern phylogenetic analysis. They are smaller than the more familiar _____, with adults ranging from 1 to 6mm, including legs.
- A. Hobo spider(s) D. Pirate spider(s)
B. House spider(s) E. All spiders
C. Orb-Weaving Spider(s) F. None of the Above

Mygalomorphae

6. The Mygalomorphae, (also called the Orthognatha), are an infraorder of spiders. The latter name comes from the orientation of the fangs which point straight down and do not cross each other (as opposed to _____).
- A. Solifugae D. Mygalomorphae
B. Australasian funnel-web spiders E. Theraphosa blondi
C. Araneomorph F. None of the Above

7. Almost all species of Mygalomorphae have eight eyes, however there are some with fewer (Masteria lewisi has only six eyes). They have ample venom glands that lie entirely within their chelicerae, but only spiders of the _____ can be really harmful to humans. Their chelicerae and fangs are large and powerful. Occasionally members of this suborder will even kill small fish, small mammals, and the like. While the world's biggest spiders are mygalomorphs - Theraphosa blondi (Latreille, 1804) has a body length of 10 cm, and a leg span of 28 cm - some species are less than one millimeter long.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Australian genus Atrax
- F. None of the Above

8. Unlike Araneomorphae, which die after about a year, _____ can live for up to 25 years, and some don't reach maturity until they are about six years old. Some flies in the family Acroceridae which are endoparasites of mygalomorphs may remain dormant in the book lungs for as long as 20 years before beginning their development and consuming the spider.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

Solifugae (Sun Spiders or Wind Scorpions)

9. _____ is an order of Arachnida, known as camel spiders, wind scorpions or sun spiders, comprising more than 1,000 described species in about 153 genera. They may grow to a length of 15 cm (6 in) including legs, and have a body comprising an opisthosoma (abdomen) and a prosoma (head) with conspicuously large chelicerae, which are also used for stridulation. Most species live in deserts and feed opportunistically on ground-dwelling arthropods and other animals.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

Vinegarroons

10. Vinegarroons have no venom glands, but they do have glands near the rear of their abdomen that can _____ when they are bothered. The acetic acid gives this spray a vinegar-like smell, giving rise to the common name vinegarroon.

- A. Have a painless bite
- B. Nasty bite
- C. Have a little spider-like venom
- D. Make a burning sensation
- E. Bite(s)
- F. None of the Above

Topic 3 Web Spiders Section

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Orb Weaving Spiders

1. Venom toxicity - the bite of _____ is of low risk (not toxic) to humans. They are a non-aggressive group of spiders, seldom bite. Be careful not to walk into their webs at night - the fright of this spider crawling over one's face can be terrifying and may cause a heart attack, particularly to the susceptible over 40 year olds.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

Trap-Door Spiders

2. Venom toxicity - the bite of the _____ is of low risk (non-toxic) to humans. It is a non-aggressive spider - usually timid but may stand up and present its fangs if harassed. Rarely bites - but if so it can be painful.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

House Spider

3. _____ are found throughout Europe and North America. This spider is so named because its horizontal sheet web is often seen in wall corners of houses, but it can also be found in any cool, dark place, such as dense vegetation or crevices of logs or rocks. The spider's web forms a tube, and the narrowed end serves as a retreat where the spider can hide. When an insect walks over the sheet web, the spider immediately rushes out from the funnel, grabs its victim, and delivers a poisonous bite. The spider then carries its prey back to its retreat, where it begins to feed.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
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4. Garden spiders belong to the family Araneidae, a group of 2,500 different species of spiders that weave orb, or circular, webs. Marked with varying shades of brown, _____ have a distinctive white cross on their abdomens, and some people refer to them as cross spiders. They are found throughout the continental United States, Canada, and Mexico. Some species are found in Europe and Hawaii.

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- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Hobo Spider Information

5. The hobo spider is a member of the funnel-web spider family _____. Funnel-web spiders are long-legged, swift-running spiders that build funnel or tube-shaped retreats. The hobo spider runs at an average speed of about 0.45 meters (17 inches) per second, with a maximum speed of about 1.1 meters (40 inches) per second.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Spider Bite Section

6. All spiders (except the family _____) have venom glands, but not all are venomous to man. In fact very few species pose a threat to man. Some spider bites might need medical attention even if the species is recognized as not being venomous to man, as secondary infections can occur.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

7. Spider venom, like _____, is generally either neurotoxic or cytotoxic. Generally, it is the web dwellers that have neurotoxic venom, and the non-web dwellers have the cytotoxic venom.

- A. A painless bite
- B. A nasty bite
- C. Scorpion venom
- D. A burning sensation
- E. Snakebite venom
- F. None of the Above

8. A pale or blanched area may surround the discolored reddened area. The blister may rupture, leaving an open ulcer. In severe cases the ulcer can become deep and infected causing _____. Worsening pain, itching and a burning sensation develop. A patient may also have symptoms such as a red, itchy rash over the torso, arms and legs that is usually seen in the first 24-72 hours. Patients may have pain in the muscles and joints, fever, chills, swollen lymph nodes, headaches, and nausea and vomiting.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation
- E. Tissue breakdown or tissue death (necrosis)
- F. None of the Above

9. Cytotoxic venom affects the cellular tissue, usually restricted to the area of the bite, but it can spread. The bite is at first painless, with symptoms developing about 2 to 8 hours after the bite. It starts by resembling a mosquito sting, becoming more painful and swollen. Eventually it ulcerates into a large surface lesion (up to 10 centimeters) that will require medical attention. This type of bite would result from members of the genera *Loxosceles* (family Sicariidae) and _____ (family Miturgidae).

- A. Cheiracanthium
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

Jumping Spiders

10. The _____ is probably the most common biting spider in the United States. People are caught by surprise and scared when they see the spider jump, especially if it jumps towards them. Bites from a jumping spider are painful, itchy and cause redness and significant swelling. Other symptoms may include painful muscles and joints, headache, fever, chills, nausea and vomiting. The symptoms usually last about 1-4 days.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Topic 4 Spider Control Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

Mechanical control: Spider traps and manual spider removal

1. Use _____ for spider control and monitoring. While sticky traps won't work for web-building spiders, they are outstanding for the many ground-dwelling, hunting spider species, including funnel-web, wolf, and brown recluse spiders. With glue boards, more is better. Place them along walls, in corners, behind furniture, and in dark, protected areas, in outbuildings and garages, in window sills and near doors, as well as places you've seen spider activity.

- A. Good screening
- B. Vacuuming
- C. Chemical
- D. Glue boards
- E. Traps
- F. None of the Above

Biological Control: Natural Spider Control

2. When spiders (or any creature blessed with an exoskeleton) walk over a thin layer of _____, they leak fluids, dehydrate, and die.

- A. DE
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

3. Indoors, use _____ in basements, crawl spaces, cracks and crevices, door and window thresholds – anywhere you've seen spider activity.

- A. Pyrethroid(s)
- B. DE
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

Natural spider repellents

4. Though you won't find much research to back them up, there are a variety of popular natural spider repellents. Of these, the most widely-used are _____, which can be found in the produce section of some grocery stores (you can ask your grocer to order some). You place them in corners of rooms and windows and apparently spiders don't like this.

- A. Osage hedge balls
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Pyrethrins, pipernyl butoxide, and silica gel
- E. Esfenvalerate
- F. None of the Above

Chemical Control: Spider control products

5. There are many consumer products on the market that effectively kill spiders, and I will make some recommendations below. However, chemicals for spider control are often discouraged unless you're dealing with the black widow or brown recluse spider. When it comes to chemical spider control, more important than what you use is how you use it. First of all, _____ alone won't solve your problem; if you don't make the changes listed above, your property will still have the same spider population potential.

- A. Osage hedge balls
- B. Chemicals
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

Esfenvalerate

6. Trade names for the older compound fenvalerate included Ectrin, Sanmarton, Sumifly, Sumiflower, Sumitick and Pydrin. The trade name for the new product, Esfenvalerate, is Asana XL. The compound may also be listed as _____.

- A. Focused manner
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

7. _____ is an insecticide. It is a mixture of four optical isomers which have different insecticidal activities. The 2-S alpha (or SS) configuration is the most insecticidally active isomer. Fenvalerate consists of about 23% of this isomer.

- A. Esfenvalerate
- B. S-fenvalerate
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

Pyrethroids

8. To mimic the insecticidal activity of the natural compound _____ another class of pesticides, pyrethroid pesticides, has been developed. These are non-persistent, which is a sodium channel modulators, and are much less acutely toxic than organophosphates and carbamates. Compounds in this group are often applied against household pests.

- A. Pyrethrum
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

9. The pyrethroids are a large family of modern synthetic insecticides similar to the _____.

- A. Naturally derived botanical pyrethrins
- B. Fenvalerate
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

10. _____ are formulated as emusifiable concentrates (EC), wettable powders (WP), granulars (G), and aerosols.

- A. Pyrethroid(s)
- B. Fenvalerate
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of

2017 Changes to EPA's Farm Worker Protection Standard

In late 2015 the Environmental Protection Agency issued the long awaited revision to the Worker Protection Standard (WPS). Although it is now technically active it will not be enforced until 2017 but the original WPS will still be enforced until the end of 2016. Please keep in mind that the WPS covers both restricted use AND general use pesticides.

This course contains EPA's federal rule requirements. Please be aware that each state implements pesticide regulations that may be more stringent than EPA's regulations and these frequently are changed. Check with your state environmental/pesticide agency for more information.

Spider Control CEU Conventional Assignment #5 Supplemental

You will have 90 days from the start of this course to have successfully completed this CEU assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com, you can also find a copy of this assignment in Word on the Assignment Page on TLC's website or fax the answers to TLC (928) 468-0675. Write your answers on the Answer Key found in the front of first assignment.

Write your answers on the Answer Key found in the front section of this assignment.

Topic 1 Arachnid Introduction Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

1. Behind the chelicerae is a pair of palps, segmented limbs that are _____. Male spiders also use palps to transfer sperm to females during mating. Adjacent to the palps are four pairs of long, hairy legs. Unlike human hair, each spider hair found on the legs acts as a sensory organ, sensitive to touch and vibration.

- A. Contains body fluid
- B. Used to transfer sperm
- C. Sensitive to touch
- D. Seven jointed segments
- E. Acts as a sensory organ
- F. None of the Above

2. Spiders that weave orb webs generally begin by spinning a thread that is carried by _____ until it catches on a tree limb or other firm support. From this thread, the spider lays down another thread to form a Y-shaped structure that is the basic framework of the web.

- A. Silk glands or glands
- B. Horizontal silk sheets
- C. Threads radiating
- D. A raised tube in the corner
- E. Air currents
- F. None of the Above

3. The spider then climbs to the midpoint of the Y-structure, known as the hub, and begins creating radius lines, or spokes, around the web. As the spider builds radius lines, it connects these lines with a few narrow circles of thread in the center of the web that forms the auxiliary spiral. _____ prevents radius lines from sagging when the spider walks on them. Using the auxiliary spiral as scaffolding, the spider begins the formation of the catching spiral, fastening sticky threads to each radius line. As the spider constructs the catching spiral, it dismantles the auxiliary spiral.

- A. The auxiliary spiral
- B. A complex process
- C. Spinning a thread
- D. Forming a Y-shaped structure
- E. The initial three center spiral threads
- F. None of the Above

4. The female reproductive system includes two egg-producing ovaries. After the male transfers _____ into the female's genital opening, located on her abdomen, they are stored, sometimes for months, in tiny receptacles. These sperm cells fertilize the female's egg cells just before she deposits her eggs into a silky cocoon.

- A. Pheromones
- B. Sperm cells
- C. Egg cells or Eggs
- D. Vibrations
- E. Female's egg cells
- F. None of the Above

5. There are eleven orders of _____. These include the scorpions; mites and ticks; harvestmen; pseudoscorpions; whipscorpions; solpugids; and spiders. It's like the relation of beetles with insects: beetles constitute one order of insects, the Coleoptera, but not all insects are beetles. Similarly, not all arachnids are spiders.

- A. Metaphidippus
- B. Mites and ticks
- C. Crabs
- D. Arthropods
- E. Spiders
- F. None of the Above

6. On the underside of the head (the cephalic part of the cephalothorax) are two pairs of appendages, the anterior pair called _____, and the second pair pedipalps, with which the spider captures and paralyzes its prey, injecting into it venom produced in the poison glands.

- A. Digestive gland
- B. Cephalothorax
- C. Pedipalp(s)
- D. Chelicerae
- E. Poison gland(s)
- F. None of the Above

7. The spider then liquefies the tissues of the prey with a digestive fluid and sucks this broth into its _____, where it may be stored in a digestive gland. Breathing is by means of tracheae (air tubes) or book lungs, or both.

- A. Digestive gland
- B. Cephalothorax
- C. Pedipalp(s)
- D. Stomach
- E. Poison gland(s)
- F. None of the Above

8. Spiders range in size from less than 1.0 mm (0.04 in) to more than 10 cm (4 in) in length, with a leg span of up to 20 cm (8 in). A spider's body is divided into two parts: the front portion, called the _____ or cephalothorax, and the rear portion, called the opisthosoma or abdomen. A narrow stalk called the pedicel connects these two parts.

- A. Digestive gland
- B. Cuticle
- C. Pedipalp(s)
- D. Prosoma
- E. Poison gland(s)
- F. None of the Above

9. The spider's cuticle provides attachment sites for many muscles, and it also prevents desiccation (loss of body water). The _____ is strong and stiff, while the cuticle of the abdomen is soft and extensible. As a spider grows, it sheds or molts its exoskeleton and grows a new one to cover its larger body.

- A. Chelicerae
- B. Cephalothorax
- C. Pedipalp(s)
- D. Cephalothorax cuticle
- E. Poison gland(s)
- F. None of the Above

10. Most spiders have a pair of poison glands that lie within the cephalothorax. Each bulblike poison gland produces and stores toxin. A muscle spirals around the gland. When this muscle contracts, it squeezes poison from the gland through a duct into the fangs of the _____, which then pass the poison into the prey.

- A. Chelicerae
- B. Cephalothorax
- C. Pedipalp(s)
- D. Cephalothorax cuticle
- E. Poison gland(s)
- F. None of the Above

Topic 2 Spider Identification Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

1. _____ construct webs in rather quiet, undisturbed places to capture their food. They live in or near their web and wait for food to come to them. They generally have poor eyesight and rely on sensing vibrations in their web to detect prey.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. Web-building spiders
- F. None of the Above

2. The Cyphophthalmi are a suborder of harvestmen, with about 36 genera, and more than hundred described species. The six families are currently grouped into two infraorders, the Tropicophthalmi and the Temperophthalmi; however, these are not supported by modern phylogenetic analysis. They are smaller than the more familiar _____, with adults ranging from 1 to 6mm, including legs.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

3. Bites most often occur when the spider is engaging in defense while trapped against the skin, such as when the person is putting on clothes the recluse is inside of, or when the person while sleeping rolls over against the recluse. However, bug spray and other chemicals intended to repel or kill arthropods that do not kill the recluse will cause its nervous system to break down partially, inducing_____.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation develop(s)
- E. Undesirable aggressive behavior
- F. None of the Above

4. The Mygalomorphae, (also called the Orthognatha), are an infraorder of spiders. The latter name comes from the orientation of the fangs which point straight down and do not cross each other (as opposed to _____). This suborder includes the heavy bodied, stout legged spiders popularly known as tarantulas as well as the dangerous Australasian funnel-web spiders.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorph
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

5. Are common spiders outdoors and indoors. They are active during the day and are often found around windows, ceilings, walls, and other areas exposed to sunlight. _____ are generally small to medium-sized (about 1/5 - 1/2 inch long) and compact-looking. They are usually dark-colored with white markings, although some can be brightly colored, including some with iridescent mouthparts.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

6. _____ are dark or tan; some are lightly colored orange, yellow or creamy white. Their legs extend out from their sides causing them to scuttle back and forth in a crab-like fashion. These spiders hide in flower blossoms and may be brought inside in cut flowers.

- A. Small crab spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

7. The female _____ rarely leaves her web. The web she constructs is an irregular, tangled, crisscross web of rather coarse silk. The core of the web is almost funnel shaped, woven into a silken tunnel in which the female spider spends the majority of her daylight hours.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Black widow spider(s)
- F. None of the Above

8. The most definitive physical feature of _____ is their eyes: most spiders have eight eyes that typically are arranged in two rows of four, but recluse spiders have six equal-sized eyes arranged in three pairs, called dyads. There is a dyad at the front of the cephalothorax (the first main body part to which the legs attach) and another dyad on each side, further back.

- A. Recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

9. Almost all species of Mygalomorphae have eight eyes, however there are some with fewer (Masteria lewisi has only six eyes). They have ample venom glands that lie entirely within their chelicerae, but only spiders of the _____ can be really harmful to humans. Their chelicerae and fangs are large and powerful. Occasionally members of this suborder will even kill small fish, small mammals, and the like. While the world's biggest spiders are mygalomorphs - Theraphosa blondi (Latreille, 1804) has a body length of 10 cm, and a leg span of 28 cm - some species are less than one millimeter long.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Australian genus Atrax
- F. None of the Above

10. Unlike Araneomorphae, which die after about a year, _____ can live for up to 25 years, and some don't reach maturity until they are about six years old. Some flies in the family Acroceridae which are endoparasites of mygalomorphs may remain dormant in the book lungs for as long as 20 years before beginning their development and consuming the spider.

- A. Solifugae
- B. Australasian funnel-web spiders
- C. Araneomorphae
- D. Mygalomorphae
- E. Theraphosa blondi
- F. None of the Above

Topic 3 Web Spiders Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

1. _____ are found throughout Europe and North America. This spider is so named because its horizontal sheet web is often seen in wall corners of houses, but it can also be found in any cool, dark place, such as dense vegetation or crevices of logs or rocks. The spider's web forms a tube, and the narrowed end serves as a retreat where the spider can hide. When an insect walks over the sheet web, the spider immediately rushes out from the funnel, grabs its victim, and delivers a poisonous bite. The spider then carries its prey back to its retreat, where it begins to feed.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

2. Garden spiders belong to the family Araneidae, a group of 2,500 different species of spiders that weave orb, or circular, webs. Marked with varying shades of brown, _____ have a distinctive white cross on their abdomens, and some people refer to them as cross spiders. They are found throughout the continental United States, Canada, and Mexico. Some species are found in Europe and Hawaii.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

3. The hobo spider is a member of the funnel-web spider family _____. Funnel-web spiders are long-legged, swift-running spiders that build funnel or tube-shaped retreats. The hobo spider runs at an average speed of about 0.45 meters (17 inches) per second, with a maximum speed of about 1.1 meters (40 inches) per second.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

4. All spiders (except the family _____) have venom glands, but not all are venomous to man. In fact very few species pose a threat to man. Some spider bites might need medical attention even if the species is recognized as not being venomous to man, as secondary infections can occur.

- A. Solifugae
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

5. Spider venom, like _____, is generally either neurotoxic or cytotoxic. Generally, it is the web dwellers that have neurotoxic venom, and the non-web dwellers have the cytotoxic venom.

- A. A painless bite
- B. A nasty bite
- C. Scorpion venom
- D. A burning sensation
- E. Snakebite venom
- F. None of the Above

6. A pale or blanched area may surround the discolored reddened area. The blister may rupture, leaving an open ulcer. In severe cases the ulcer can become deep and infected causing _____. Worsening pain, itching and a burning sensation develop. A patient may also have symptoms such as a red, itchy rash over the torso, arms and legs that is usually seen in the first 24-72 hours. Patients may have pain in the muscles and joints, fever, chills, swollen lymph nodes, headaches, and nausea and vomiting.

- A. Painless bite
- B. Nasty bite
- C. Spider venom
- D. A burning sensation
- E. Tissue breakdown or tissue death (necrosis)
- F. None of the Above

7. Cytotoxic venom affects the cellular tissue, usually restricted to the area of the bite, but it can spread. The bite is at first painless, with symptoms developing about 2 to 8 hours after the bite. It starts by resembling a mosquito sting, becoming more painful and swollen. Eventually it ulcerates into a large surface lesion (up to 10 centimeters) that will require medical attention. This type of bite would result from members of the genera *Loxosceles* (family Sicariidae) and _____ (family Miturgidae).

- A. Cheiracanthium
- B. Uloboridae
- C. Araneomorphae
- D. Mygalomorphae
- E. Agelenidae
- F. None of the Above

8. Venom toxicity - the bite of _____ is of low risk (not toxic) to humans. They are a non-aggressive group of spiders, seldom bite. Be careful not to walk into their webs at night - the fright of this spider crawling over one's face can be terrifying and may cause a heart attack, particularly to the susceptible over 40 year olds.

- A. Hobo spider(s)
- B. House spider(s)
- C. Orb-Weaving Spider(s)
- D. Pirate spider(s)
- E. All spiders
- F. None of the Above

9. Venom toxicity - the bite of the _____ is of low risk (non-toxic) to humans. It is a non-aggressive spider - usually timid but may stand up and present its fangs if harassed. Rarely bites - but if so it can be painful.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

10. The _____ is probably the most common biting spider in the United States. People are caught by surprise and scared when they see the spider jump, especially if it jumps towards them. Bites from a jumping spider are painful, itchy and cause redness and significant swelling. Other symptoms may include painful muscles and joints, headache, fever, chills, nausea and vomiting. The symptoms usually last about 1-4 days.

- A. Brown recluse spider(s)
- B. Jumping spider(s)
- C. Trap-Door Spider(s)
- D. Garden spider(s)
- E. Hobo spider(s)
- F. None of the Above

Topic 4 Spider Control Section

(S) means the answer may be plural or singular. There are no intentional trick questions. Please provide the answer as exactly in the text. If you need assistance, please e-mail us your concern.

1. _____ is most toxic to bees and fish. It is found in some emulsifiable concentrates, ULV, wettable powders, slow release formulations, insecticidal fogs, and granules. It is most commonly used to control insects in food, feed, and cotton products, and for the control of flies and ticks in barns and stables.

- A. Pyrethroid(s)
- B. Fenvalerate
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

2. _____ does not affect plants, but is active for an extended period of time. Fenvalerate may irritate the skin and eyes on contact, and is also harmful if swallowed.

- A. Pyrethroid(s)
- B. Fenvalerate
- C. Esfenvalerate
- D. Fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

3. To mimic the insecticidal activity of the natural compound _____ another class of pesticides, pyrethroid pesticides, has been developed. These are non-persistent, which is a sodium channel modulators, and are much less acutely toxic than organophosphates and carbamates. Compounds in this group are often applied against household pests.

- A. Pyrethrum
- B. S-fenvalerate
- C. Perimeter barrier
- D. Modern synthetic insecticides
- E. Fenvalerate
- F. None of the Above

4. The pyrethroids are a large family of modern synthetic insecticides similar to the _____.

- A. Naturally derived botanical pyrethrins
- B. Fenvalerate
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

5. When spiders (or any creature blessed with an exoskeleton) walk over a thin layer of _____, they leak fluids, dehydrate, and die.

- A. DE
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Fenvalerate
- F. None of the Above

6. Indoors, use _____ in basements, crawl spaces, cracks and crevices, door and window thresholds – anywhere you've seen spider activity.

- A. Pyrethroid(s)
- B. DE
- C. Esfenvalerate
- D. S-fenvalerate
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above

7. Though you won't find much research to back them up, there are a variety of popular natural spider repellents. Of these, the most widely-used are _____, which can be found in the produce section of some grocery stores (you can ask your grocer to order some). You place them in corners of rooms and windows and apparently spiders don't like this.

- A. Osage hedge balls
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Pyrethrins, pipernyl butoxide, and silica gel
- E. Esfenvalerate
- F. None of the Above

8. _____ and eucalyptus are other popular spider repellents that are used in the same manner.

- A. Osage hedge balls
- B. Chemicals alone
- C. Other insecticidal dusts
- D. Drione Dust (pyrethrins, pipernyl butoxide, and silica gel)
- E. Horse chestnuts
- F. None of the Above

9. _____ can be used to control spiders when applied to corners and other sites where spiders tend to breed.

- A. Good screening
- B. Vacuuming spiders
- C. Spraying chemical
- D. Seal cracks in the foundation
- E. Residual insecticides
- F. None of the Above

10. Barrier treatments, in conjunction with pest proofing, can effectively protect your home from spiders. Before sealing off cracks and crevices in siding and foundation, apply something like _____ or Drione Dust (pyrethrins, pipernyl butoxide, and silica gel).

- A. Bifenthrin
- B. Fenvalerate
- C. Esfenvalerate
- D. Delta Dust Insecticide (deltamethrin)
- E. Pyrethrins, pipernyl butoxide, and silica gel
- F. None of the Above