Case Two: An Ounce of Prevention!

Grades 3-7 Levels 1-6

Quiz Answers!

Check how you scored on any of the quizzes. If you missed one, read the explanation next to the answer to learn why.

Level 1. Gumshoe

1. D. WHY: Hiding places provide shelter from predators that might eat them, or temperature or moisture conditions that might be harmful to their health.

2. C. WHY: Moles live underground, you usually won't find them in buildings made of wood or masonry.

3. A. WHY: Removing webs deprives spiders of food and a hiding place, breaking the pest triangle!

4. B. WHY: Following the ant could lead you to spilled food or drink that needs cleaning up, cracks or crevices that need to be sealed, or even back to their home colony which can be removed or destroyed.

5. D. WHY: Ants within a nest, or colony, depend on each other for food. The odor trail helps "recruit" nest mates to return to the new resource.

Level 2. Rookie

1. C. WHY: Grass can be a weed in a garden, a tomato plant can be a weed in a lawn.

2. D. WHY: Sunlight provides the energy plants need to make plant food from carbon dioxide in the air and water.

3. B. WHY: Plants that we consider weeds often produce lots of seeds that grow quickly. Stop a seed, stop a weed!

4. A. WHY: A rhizome is a special type of plant stem that grows along the ground and can sprout roots and upright stems.

5. B. WHY: Thick turf (grass) crowds out weeds, outcompeting young weed sprouts for sunlight and water.

6. E. WHY: If you don't remove the root, the dandelion may regrow.

7. B. WHY: Mulch covers the soil, keeping moisture in and sunlight and weed seeds out.

8. D. WHY: If you find out the name of the weed, you can find out more about its habits and the best strategies to control it.

Level 3. Agent

1. C. WHY: Wet wood is softer, inviting carpenter ants, termites and microbes in.

2. A. WHY: Microbes are living organisms but very small. They include viruses, bacteria and fungi.

3. B. WHY: Mold and mildew are "colonies" or groups of microbes growing together and can cause allergies, nasty smells, fabric stains and wood decay.

4. A. WHY: Fungal spores, the "seeds" produced by fungi, are all around us in the air and soil just waiting for the right conditions to grow.

5. C. WHY: Without wood rot fungi in the soil, the earth might be covered with dead trees!

6. E. WHY: Lumber is usually too dry to support wood rot fungi unless poor construction or damage has created a moisture problem.

7. B. WHY: Wood soaks up water like a sponge, swelling and stretching paint until it cracks.

8. D. WHY: Dehumidifiers remove moisture from the air and collect it for disposal down the drain.

9. E. WHY: Any wood that's exposed to moisture from rain, condensation or evaporation is especially prone to rot.

10. E. WHY: There's no longer any reason to use arsenic treated wood, there are many effective alternatives to choose from.

11. A. WHY: There are five general types of wood rot fungi: surface molds, blue stain fungi, and brown, dry and white rot. You can tell the type from the way they look.

Level 4. Junior Detective

1. E. WHY: Plants are like people, they come in all shapes and sizes and have differences and similarities. Learning what they like and don't like is the key to getting along!

2. D. WHY: If healthy plants weren't able to defend themselves, would the world be full of plants or pests or neither? Most pests can only attack a few kinds of plants, the rest are "resistant" (not bothered) by that pest.

3. B. WHY: Key plants are those plants that take the most time and attention to prevent pest problems. They may have lots of pests that need to be dealt with, or have one or two pests that are very difficult to manage.

4. E. WHY: A key plant results from a combination of reasons, not just one.

5. E. WHY: By choosing plants that naturally do well in your climate, and by putting them in an ideal spot, you can have beautiful plants without a lot of work!

6. E. WHY: There are many examples of key plants, by learning as much as you can before you buy or plant, you'll know just what you're getting into.

7. C. WHY: Rotating annuals means planting the same plants in different spots each year.

8. E. WHY: Many pests overwinter in plant debris or soil as insect eggs or disease spores. If you move the plants, sometimes the pest can't find them!

9. E. WHY: Pesticides are powerful chemicals that should only be used by an adult and only after you're sure you fully understand the pest problem and nothing else will work.

10. B. WHY: Why bother with pesticides when another plant might be just as attractive and useful and require no pesticides?

11. C. WHY: The best solutions for wildlife problems include repellents (plants that don't taste good to wildlife), exclusion (fences, netting) or harassment (dogs, noisemakers, foil tape).

12. A. WHY: Moles usually don't stay in one place for too long. Grass will recover if put back in place and watered right away.

13. A. WHY: Biological control often happens naturally, like when aphids are eaten by syrphid fly, lacewing or lady beetle larvae.

14. E. WHY: Biological control includes making conditions the best possible to keep natural enemies working, and adding them if necessary and practical.

Level 5. Master Detective

1. D. WHY: Each type of ant has its own special needs and habits, and may require a special solution.

2. C. WHY: Many ants are beneficial, improving the soil and eating pest insects that eat garden plants.

3. C. WHY: Ants within the colony have special jobs such as queen, worker or soldier to keep the colony growing.

4. B. WHY: Many ants develop special jobs and have special "equipment" like wings that help them do their job better.

5. E. WHY: Ants are more closely related to bees than to termites, so there are many differences between ants and termites.

6. C. WHY: There are more than 18 kinds, or species, of ants that can cause problems indoors and out in the US alone. Only a few are likely to be found in any one area.

7. E. WHY: Ants differ in many ways and most do not sting or bite. Keep going to learn more.

8. D. WHY: Yes, it's named after the trick it does with its abdomen.

9. B. WHY: It's named after its white body parts.

10. E. WHY: Argentine ants, the most common problem ant in California, are a different size and color and have only one node.

11. E. WHY: Sanitation and exclusion are the best solutions for reducing ant problems.

12. D. WHY: Pavement ants nest in cracks in driveways, patios and sidewalks and are frequently found in the Northeastern and Midwestern US.

13. B. WHY: It's true, if you crush this ant between your fingers, you'll smell rotten coconut.

14. A. WHY: Yes, although this ant prefers meat and cheese, it doesn't usually get into refrigerators.

15. B. WHY: Many ants bite but only a few sting. Some people may have an allergic reaction, so picking up an unknown ant with bare hands is not a good idea.

16. E. WHY: Evolution has crafted many specializations to ensure survival of the colony.

Level 6. IPM Super Sleuth!

1. E. WHY: Finish the quiz to learn more!

2. A. WHY: Tick larvae become infected by feeding on infected mammals, birds or reptiles. Older ticks (nymphs and adults) can pass the infection on to humans.

3. B. WHY: When ready to find an animal or human host for a blood meal, tick nymphs and adults wait at the top of tall grass or brushy vegetation.

4. E. WHY: Both nymphs and adults can transmit Lyme disease to humans.

5. E. WHY: If you can prevent ticks from biting, you can avoid getting the disease.

6. B. WHY: An adult can help you decide if it's an *Ixodes* tick, and help you remove it carefully to reduce the chance of infection.

7. D. WHY: Mosquitoes in three families, *Culex, Ochlerotatus,* and *Aedes* have been shown to be the primary vecotors of the West Nile Virus.

8. E. WHY: Any animal bitten by a mosquito can become infected.

9. C. WHY: To breed, the mosquitoes that transmit West Nile Virus need stagnant (slow moving) water to breed and these sites can be controlled.

10. A. WHY: Spraying everywhere can kill many beneficial insects too.

11. D. WHY: The virus kills birds and can be fatal to people who don't have strong immune systems.

12. B. WHY: Mosquitoes need high humidity to protect them from dehydration. Humidity is highest around dawn, sunset, at night and when it rains.

13. A. WHY: Reducing the amount of exposed skin, and protecting that with repellent, will reduce the chance of mosquito bites.

14. A. WHY: Adults can help you learn more about West Nile Virus and what symptoms to watch for if it's a problem in your area.

15. E. WHY: Rodents such as rats and mice transmit Hantavirus to humans, but show no symptoms themselves.

16. D. WHY: The virus is found in rodent saliva, urine and excrement and can become airborne (float in the air).

17. E. WHY: Break the rodent triangle by removing food, water and hiding places.

18. B. WHY: Disturbing rodent excrement can spread the virus particles. An adult can get the problem resolved correctly.

19. D. WHY: The key to IPM is knowing about pests and using your knowledge to prevent problems!