

Insect Study Merit Badge

Please bring to class:

- **Pre-Work – listed in BOLD and red**
- Blue card
- Pen
- Snack/lunch and a drink
- Appropriate clothing to go outside to observe the weather

Important information about how to prepare for a merit badge program at Huntley Meadows Park.

Parents, please review the content of a merit badge prior to registering your scout: some badges may be challenging for younger scouts. Also, the class discussions are more interesting if scouts review *all* the requirements for the badge before the program. The chances of your scout completing all the work for the badge increases dramatically when he is properly motivated and the badge content is age-appropriate.

Merit badges are not designed to be completed in a day and require independent work on the part of the scout outside of the workshop. We call this PREWORK. We suggest this is done prior to the badge program date, but we realize this is not always practical or possible, in these cases we will sign partial cards and accept the assignments after the program.

Merit badge programs can be from 3 to 5 hours long, so be sure to pack a snack and water for your scout and that he is dressed appropriately for being outdoors for some or all of the program.

Though not required, Scout workbooks are very useful and we prefer that scouts use the workbook during the program. Workbooks can be found at:

http://meritbadge.org/wiki/index.php/Merit_Badge_Worksheets .

About blue cards: WE DO NOT HAVE BLUE CARDS. Please bring an *authorized* blue card with you to the program. Your troop scout master should be consulted prior to attending any merit badge program and he or she will sign the front of the card.

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- Snack/lunch and a drink
- Appropriate clothing to go outside to observe the weather
- Worksheet (useful but not mandatory) <http://usscouts.org/mb/worksheets/Insect-study.pdf>

1. Do the following:

- (a) Explain to your counselor the most likely hazards associated with exposure to ants and bees and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
- (b) Discuss the prevention of and treatment for health concerns that could occur while working with ants and bees, including insect bites and anaphylactic shock.

2. Tell how insects are different from all other animals. Show how insects are different from centipedes and spiders.

3. Point out and name the main parts of an insect.

4 Describe the characteristics that distinguish the principal families and orders of insects.

5. Do the following:

- (a) Observe 20 different live species of insects in their habitat. In your observations, include at least four orders of insects.
- (b) Make a scrapbook of the 20 insects you observe in 4a. Include photographs, sketches, illustrations, and articles. Label each insect with its common and scientific names, where possible. Share your scrapbook with your merit badge counselor.

6. Do the following:

- (a) From your scrapbook collection, identify three species of insects helpful to humans and five species of insects harmful to humans.
- (b) Discuss the use of integrated pest management vs. chemical methods of insect control. What are the advantages and disadvantages of each?

7. Explain the symbiotic relationship between bees and humankind. Explain what colony collapse disorder (CCD) is and some of the possible causes. Discuss how CCD affects our food supply.

8. Compare the life histories of a butterfly and a grasshopper. Tell how they are different.

9. Raise an insect through complete metamorphosis from its larval stage to its adult stage (e.g., raise a butterfly or moth from a caterpillar).*

10. Do ONE of the following: If the animals you chose to observe to fulfill this requirement do not belong to you, you must have permission from the caretaker of the animals before beginning your observations.

- (a) Observe an ant colony in a formicarium (ant farm). Find the queen and worker ants. Explain to your counselor the different chambers found within an ant colony.
- (b) Study a hive of bees. Remove the combs and find the queen. Estimate the amount of brood and count the number of queen cells. Explain how to determine the amount of honey in the hive.

11. Tell things that make social insects different from solitary insects.

12. Tell how insects fit in the food chains of other insects, fish, birds, and mammals.

13. Find out about three career opportunities in insect study. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.

Huntley Meadows Park

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