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## **Insect Study Merit program @ Cub Run RECenter**

### **Important information about how to prepare for a merit badge program at Cub Run RECenter!**

Merit badges are also supposed to be done with the buddy system. *We highly recommend that you attend the program with your scout especially if he does not have a buddy*; the chances of your scout completing all the work for the badge, during the allotted time, increases dramatically when he is properly motivated. There is never a fee for adults and you are sure to learn something. Also our policy is that the program will not proceed if there are not 2 or more adults present for the program especially those containing hikes. We will attempt to enlist adult volunteers from our center but this is not always possible so *prepare for the possibility that you may have to stay for the program and not just drop off your scout*. This will allow the instructor to concentrate more fully on the difficult task of imparting all the required information and assisting the boys individually if necessary, while other adults keep the atmosphere calm and productive.

These programs are 3-5 hours long 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 time.

Merit Badges are in general not designed to be completed in an afternoon therefore in order to complete the badge there is some work the scouts need to do outside of the workshop. We call this pre-work. 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 if requested sign partial cards and accept the assignments after the program of ask that your bring/ send back all the work and the card in order to sign off on the blue card all at once.

For the insect badge here is what you need to do ahead of time so that at the end of the program I can sign off on your card completely. Luckily you don't have to collect and pin insects any more but you do need to make a scrap book about 20 species Requirement 4. We will be catching and observing insects the day of the program but in order to have a scrap book you need to do more than just catch them. So bring a composition book or some other booklet you can use to record your observations. Also before arriving look up a local bee, butterfly, beetle, and true bug on the internet or in a book and bring pictures or sketches and a small paragraph about each one. A good site is [www.enature.com](http://www.enature.com) or <http://www.idlab.ento.vt.edu/IDLab/Fact/Fact3.html>

The other thing you need to do ahead of time and I would start as early as possible is # 7 you must raise an insect through complete metamorphosis from larva to adult. Crickets do not count as their metamorphosis is not complete. If you have raised insects in your school classroom the only way it can count is if it was within the last year and you write a report describing what you learned about each stage.

When you are ready to start raising an insect you have a few options the cheapest and easiest it to raise meal worms a guide can be found here and many other places on the web

[http://www.ehow.com/how\\_2066795\\_keep-mealworms.html](http://www.ehow.com/how_2066795_keep-mealworms.html) . You can buy live meal worms at most pet stores. If you go to a bait store make sure to get a maggot or a grub, regular worms won't work. If you want to get fancy you can use an ant colony, Lady bugs or caterpillars purchased from a science store like <http://insectlore.stores.yahoo.net/> this includes a habitat and you can order the live larvae to raise.

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You could even collect mosquito larvae from a local puddle and raise them. Though if you don't plan on bringing me the finished product you need to take good notes with sketches or photos of the insect's progress.

If you do end up raising meal worms and don't want the colony/beetles please bring them to me I have a hungry bunch of nature center animals who would love to eat your left-overs.

### **Insect Study Requirements**

1. Tell how insects are different from all other animals. Show how insects are different from centipedes and spiders.
2. Point out and name the main parts of an insect.
3. Describe the characteristics that distinguish the principal families and orders of insects.
4. 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.**
5. 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. Describe some general methods of insect control.
6. Compare the life histories of a butterfly and a grasshopper. Tell how they are different.
- 7. Raise an insect through the complete metamorphosis from its larval stage to its adult stage (e.g. raise a butterfly or moth from a caterpillar). \***
8. Observe an ant colony or a beehive. Tell that you saw.
9. Tell the things that make social insects different from solitary insects.
10. Tell how insects fit in the food chains of other insects, fish, birds, and mammals.
11. Find out about three career opportunities in insect study. Pick one and find out about the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.