



Insect Study

Merit Badge Workbook

This workbook can help you but you still need to read the merit badge pamphlet (book). No one can add or subtract from the Boy Scout Requirements #33215. Merit Badge Workbooks and much more are below: [Online Resources](#).

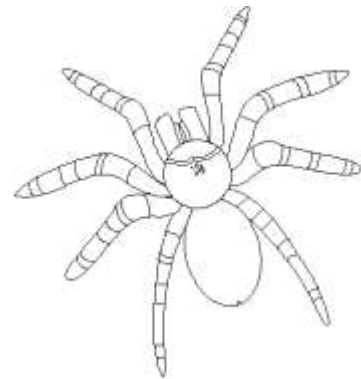
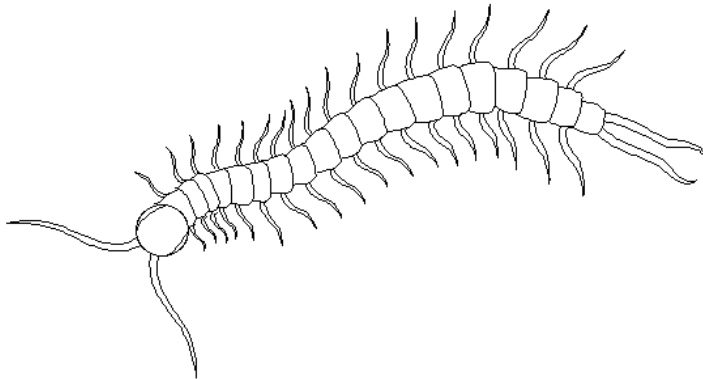
Workbook developer: craig@craiglincoln.com. Requirements revised: 2008, Workbook updated: September 2008.

Scout's Name: _____ Unit: _____

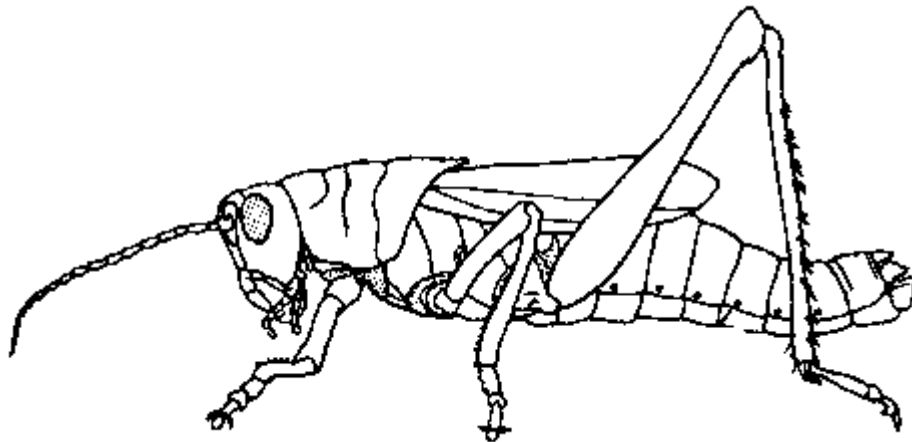
Counselor's Name: _____ Counselor's Ph #: _____

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.

(See the [Online Resources](#) for insect scrapbook photos, articles, common & scientific names, etc.)

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.)* _____

**Some insects are endangered species and are protected by federal or state law. Every species is found only in its own special type of habitat. Be sure to check natural resources authorities in advance to be sure that you will not be collecting any species that is known to be protected or endangered, or in any habitat where collecting is prohibited. In most cases, all specimens should be returned at the location of capture after the requirement is met. Check with your merit badge counselor for those instances where the return of these specimens would not be appropriate.*

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. _____

Online Resources (Use any Internet resource with caution and only with your parent's or guardian's permission.)

Boy Scouts of America: ► scouting.org ► [Guide to Safe Scouting](#) ► [Age-Appropriate Guidelines](#) ► [Safe Swim Defense](#)
 ► [Scout](#) ► [Tenderfoot](#) ► [Second Class](#) ► [First Class](#) ► [Rank Videos](#) ► [Safety Afloat](#)

Boy Scout Merit Badge Workbooks: usscouts.org -or- meritbadge.org **Merit Badge Books:** www.scoutstuff.org

Requirement Resources:

- 1 & 2:** Insect definition, species, parts, etc: <http://en.wikipedia.org/wiki/Insect>
- 3:** Insect Families: http://nrs.ucdavis.edu/stebbins/species/insect_families.htm
 Insect Orders: <http://insects.tamu.edu/fieldguide/> <http://www.earthlife.net/insects/orders.html>
- 4:** Texas A & M online scrapbook with photos, articles, scientific names, etc.: <http://insects.tamu.edu/fieldguide/>
 How to identify insects (with scrapbook pages): <http://www.amentsoc.org/insects/what-bug-is-this/adult-key.html>
 University of Kentucky online scrapbook: <http://www.uky.edu/Ag/CritterFiles/casefile/insects/insectfile.htm>
 Iowa State University Interactive Bug Guide: <http://bugguide.net/node/view/52/bgpage>
- 5a:** Helpful Insects: <http://www.bugsmart.ca/bug/helpful/> http://www.insectidentification.org/helpful_insects.asp
 Harmful Insects: http://plantfairnursery.com/harmful_insects.htm
<http://insectzoo.msstate.edu/OrkinZoo/harmful.html>
- 6:** Butterflies: <http://en.wikipedia.org/wiki/Butterfly> <http://butterflywebsite.com/>
 Grasshoppers: <http://en.wikipedia.org/wiki/Grasshopper> <http://insected.arizona.edu/ghopperinfo.htm>
- 8:** Ant colony webcams: <http://www.antcam.com/> <http://www.nhm.ac.uk/kids-only/naturecams/antcam/>
 USDA Beehive webcam: <http://gears.tucson.ars.ag.gov/beecam/>

General Resources:

American Beekeeping Federation: <http://www.abfnet.org>
 American Entomological Society: <http://www.acnatsci.org/aes>
 Entomological Society of America: <http://www.entsoc.org>
 Monarch Watch: <http://www.monarchwatch.org>
 BioQuip Products: <http://www.bioquip.com>