

# APPENDIX

These worksheets will be helpful in preparing your Scouts to earn merit badges at camp. Copy and distribute, as you feel necessary.

The following merit badges have requirements, which cannot be completed during a session at camp. Worksheets are provided to help with verification for those requirements done prior to camp.

ASTRONOMY  
BIRD STUDY  
CAMPING  
ENVIRONMENTAL SCIENCE  
FISH AND WILDLIFE MANAGEMENT  
JOURNALISM  
NATURE  
REPTILE AND AMPHIBIAN STUDY  
WEATHER  
WILDERNESS SURVIVAL

Additional worksheets for all merit badges may be found on:

[http://meritbadge.org/wiki/index.php?title=Merit\\_Badge\\_Worksheets](http://meritbadge.org/wiki/index.php?title=Merit_Badge_Worksheets)

The following aquatic-related badges require you to demonstrate knowledge of CPR:

CANOEING  
KAYAKING  
LIFESAVING  
MOTORBOATING  
ROWING  
SMALL BOAT SAILING  
SWIMMING  
WATER SPORTS

# Astronomy Merit Badge



Scout's Name: \_\_\_\_\_

Unit: \_\_\_\_\_

District: \_\_\_\_\_

Session: \_\_\_\_\_ Year \_\_\_\_\_

4. Do the following:

(a) Identify in the sky at least 10 constellations, at least four of which are in the zodiac.

_____	_____
_____	_____
_____	_____
_____	_____

*(h) Identify at least eight conspicuous stars, five of which are of magnitude 1 or brighter.*

_____	_____
_____	_____
_____	_____
_____	_____

(c) Make two sketches of the Big Dipper. In one sketch, show the Big Dipper's orientation in the early evening sky. In another sketch, show its position several hours later. In both sketches, show the North Star and the horizon. Record the date and time each sketch was made.

Date: ___/___/___ Time: _____	Date: ___/___/___ Time: _____

(d) Explain what we see when we look at the Milky Way. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Do the following:

(a) List the names of the five most visible planets. Explain which ones can appear in phases similar to lunar phases and which ones cannot, and explain why.

Five Most Visible Planets   Phases?   Why?

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(b) Find out when each of the five most visible planets that you identified in requirement 5a will be observable in the evening sky during the next 12 months, then compile this information in the form of a chart or table. Update your chart monthly to show whether each planet will be visible during the early morning or in the evening sky.

Month	Jupiter	Mars	Mercury	Saturn	Venus

6. At approximately weekly intervals, sketch the position of Venus, Mars, or Jupiter in relation to the stars. Do this for at least four weeks and at the same time of night. On your sketch, record the date and time next to the planet's position.

Date: ___/___/___ Time: _____	Date: ___/___/___ Time: _____	Date: ___/___/___ Time: _____	Date: ___/___/___ Time: _____

Use your sketch to explain how planets move. \_\_\_\_\_

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7. Do the following:

(a) Sketch the face of the Moon and indicate at least five seas and five craters. Label these landmarks.

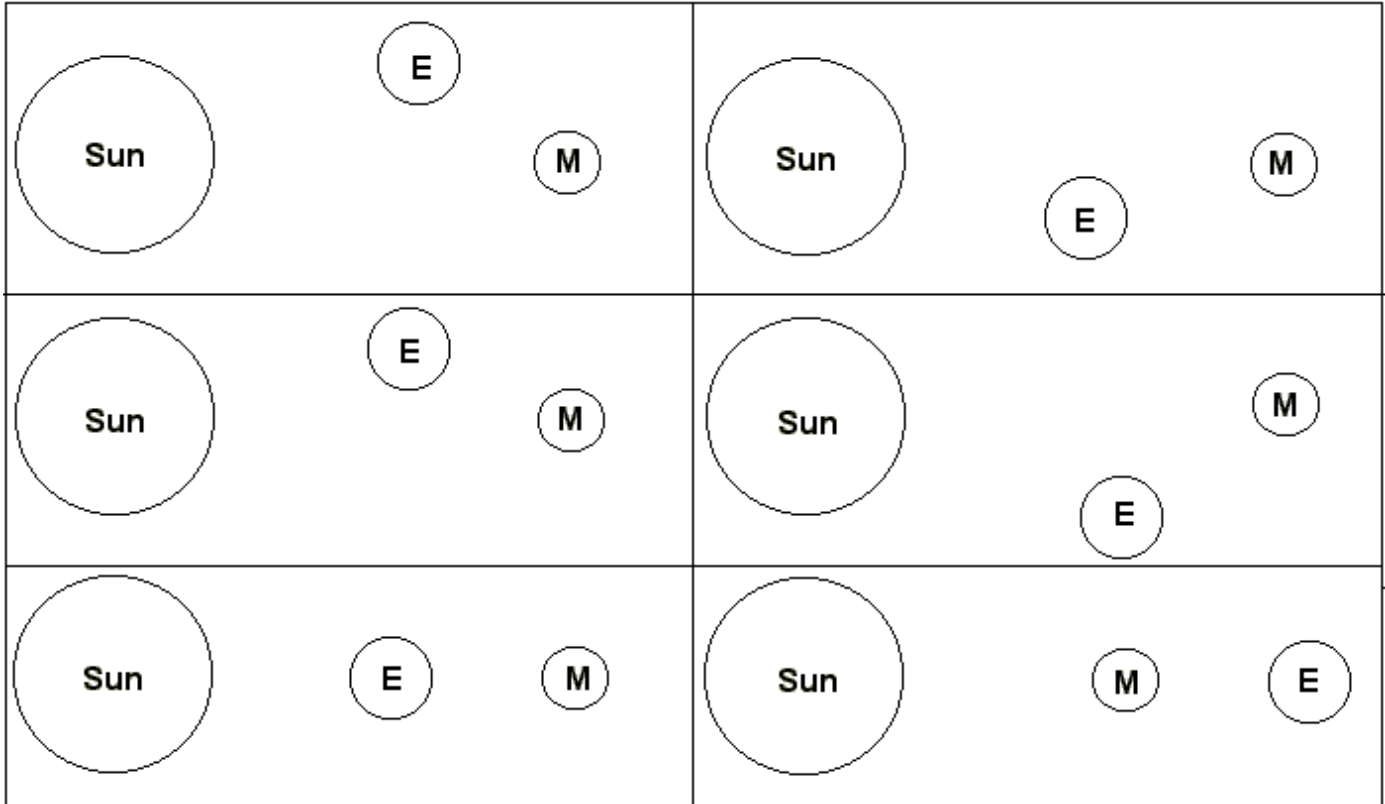
(b) Sketch the phase and the daily position of the Moon, at the same hour and place, for a week. Include landmarks on the horizon such as hills, trees, and buildings.

Date: __/__/__ Time: _____	Date: __/__/__ Time: _____	Date: __/__/__ Time: _____
Date: __/__/__ Time: _____	Date: __/__/__ Time: _____	Date: __/__/__ Time: _____

Explain the changes you observe. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(c) List the factors that keep the Moon in orbit around Earth. \_\_\_\_\_

(d) With the aid of diagrams, explain the relative positions of the Sun, Earth, and the Moon at the times of lunar and solar eclipses, and at the times of new, first-quarter, full, and last-quarter phases of the Moon.



# BIRD STUDY MERIT BADGE



The following requirements would be much easier to finish before coming to camp. Please bring the completed sheets with you and present them to your counselor as proof that you have completed the requirements.

**Requirement 5.** For this requirement you are asked to observe and be able to identify **at least 20** species of wild birds. You need to prepare a field notebook and make an entry for each bird you identify. Use the following layout as your field notebook model. Record all information specified for this requirement.

**Bird Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Habitat:** \_\_\_\_\_

**Bird's main feeding habit:** \_\_\_\_\_

**Two types of food the bird is likely to eat. Food 1:** \_\_\_\_\_ **Food 2:** \_\_\_\_\_

**Bird is (circle one):** Migrant resident - Summer resident - Winter resident - Year-round resident to your area

**Requirement 7.** You have been given two options for this requirement. Select and complete one of them.

**IF YOU SELECTED OPTION A:** Go on a field trip with a local club or with others who are knowledgeable about birds in your area.

**Date of field trip:** \_\_\_\_\_ **Location:** \_\_\_\_\_

Make a list of all the birds your group observed during the field trip.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Explain why some of the species you saw were common.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Bird Study Merit Badge (Continued)**

Explain why some of the species you saw were present in small numbers. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Describe the area you visited on your field trip and tell why this area is good for finding birds. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**IF YOU SELECTED OPTION B:** By using a public library or contacting the National Audubon Society, find the name and location of the Christmas Bird Count nearest your home. What were the results of the most recent count?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What kinds of information are collected during the annual event? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What species are most common? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What species are most uncommon? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Why are these birds present in small numbers? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If the number of birds of this species is decreasing, explain why. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What, if anything, can be done to reverse their decline? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_ District and Troop Number \_\_\_\_\_

# CAMPING MERIT BADGE



The following requirements must be finished before camp in order to complete the merit badge.

**Requirement 5E.** Present yourself with your pack for inspection. Be correctly clothed and equipped for an overnight campout. Have your leader sign and date here when completed.

Leader's Signature \_\_\_\_\_ Date \_\_\_\_\_

**Requirement 7B.** Pack your own gear and your share of the patrol gear and food for proper carrying. Show that your pack is right for quickly getting what is needed first, and that it has been assembled properly for comfort, weight, balance, size and neatness. Have your leader sign and date here when completed.

Leader's Signature \_\_\_\_\_ Date \_\_\_\_\_

**Requirement 8C & 8D.** Prepare a camp menu. Cook for your patrol, a trail meal, requiring the use of a lightweight stove. Have your leader sign and date here when completed.

Leader's Signature \_\_\_\_\_ Date \_\_\_\_\_

**Requirement 9A.** Camp out a total of at least 20 days and nights. Sleep each night under the sky or under a tent you have pitched.

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Where: \_\_\_\_\_ Date: \_\_\_\_\_ Where: \_\_\_\_\_ Date: \_\_\_\_\_

Have your leader sign and date here when completed.

Leader's Signature \_\_\_\_\_ Date \_\_\_\_\_

**(CONTINUED ON REVERSE SIDE)**

**Camping Merit Badge (Continued)**

**Requirement 9B.** On any of these camping experiences, you must do TWO of the following, only with proper preparation and qualified supervision. Have your leader verify the activities that you complete by signing and dating where appropriate.

\_\_\_\_\_ Hike up a mountain, gaining at least 2,000 vertical feet.

\_\_\_\_\_ Plan and carry out a float trip of at least four hours.

\_\_\_\_\_ Take a bike trip of at least 15 miles or at least four hours.

\_\_\_\_\_ Backpack for at least four miles.

\_\_\_\_\_ Rappel down a rappel route of 30 feet or more.

**Requirement 9C.** On one of your campouts, perform a conservation project approved in advance by the private landowner or public land management agency. Place: \_\_\_\_\_

Date of project: \_\_\_\_\_ Leader verification signature: \_\_\_\_\_

Name \_\_\_\_\_ District and Troop Number \_\_\_\_\_

# ENVIRONMENTAL SCIENCE MERIT BADGE



The following requirements would be much easier to finish before coming to camp. Please bring the completed sheets with you and present them to your counselor as proof that you have completed the requirements.

**Requirement 3E.** Endangered Species. For this requirement you have been given two options. Select and complete ONE option.

**IF YOU SELECTED OPTION 1:** Do research on one endangered species found in your state.

What endangered species did you select? \_\_\_\_\_

What is its natural habitat? \_\_\_\_\_

What is being done to preserve it? \_\_\_\_\_

How many of these organisms are left in the wild? \_\_\_\_\_

On a separate piece of paper, prepare a 100-word report about the organism, including a drawing or photo. Attach your report and picture to this worksheet.

**IF YOU SELECTED OPTION 2:** Do research on one species that was endangered or threatened, but which has now recovered.

What organism did you select? \_\_\_\_\_

How did this organism recover from being endangered? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What is the new status of this organism? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

On a separate piece of paper, prepare a 100-word report about the organism, including a drawing or photo. Attach your report and picture to this worksheet.

**Requirement 4.** Select TWO outdoor areas that are very different for each other to study. Once you have selected the two areas that you will study you have two options to choose from for this requirement. Select and complete one of them.

*If you selected **Option A:***

Mark off two study plots of four square yards, and count the number of species found there.

**Plot 1:** Number of species found: \_\_\_\_\_

List each species below and list your estimation of how much space is occupied by each species found in the plots:

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_ Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_ Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

**Environmental Science Merit Badge (Continued)**

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

**Plot 2:** Number of species found: \_\_\_\_\_

List each species below and list your estimation of how much space is occupied by each species found in the plots:

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Species: \_\_\_\_\_ Space Used: \_\_\_\_\_

Tell the type and number of nonplant species you find on your plots:

**Plot 1:**

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

**Plot 2:**

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_

Type: \_\_\_\_\_ # \_\_\_\_\_



# FISH AND WILDLIFE MANAGEMENT MERIT BADGE



The following requirements would be much easier to finish before coming to camp. Please bring the completed sheets with you and present them to your counselor as proof that you have completed the requirements.

**Requirement 5.** You have been given four options for this requirement. Select and complete ONE of them.

**IF YOU SELECTED OPTION A:** Construct, erect and check regularly at least two artificial nest boxes (wood duck, bluebird, squirrel, etc.) and keep written records for one nesting season.

Briefly describe the two boxes you built and where you placed them.

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After keeping records for one nesting season, show your records to your counselor. Give a brief summary of your records.

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**IF YOU SELECTED OPTION B:** Construct, erect and check regularly bird feeders and keep written records of the kinds of birds visiting the feeder in the wintertime.

Give a brief description of the feeders you built and where you put them.

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List the names of the birds you witnessed using your feeders during the wintertime.

_____	_____	_____
_____	_____	_____
_____	_____	_____

**Fish and Wildlife Management Merit Badge (Continued)**

**IF YOU SELECTED OPTION C:** Design and implement a backyard wildlife habitat improvement project.

Describe your project. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What were the results of your project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**IF YOU SELECTED OPTION D:** Design and construct a wildlife blind near a game trail, water hole, salt lick, bird feeder or birdbath and take good photographs or make sketches from the blind of any combination of ten wild birds, mammals, reptiles or amphibians.

Describe your blind. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

List the ten animals you sketched or photographed. Attach your sketches or photographs to the worksheet for your counselor to view. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Requirement 7.** You have been given four options for this requirement. Select and complete ONE of them.

**IF YOU SELECTED OPTION A:** Determine the age of five species of fish from scale samples OR identify various age classes of one species in a lake and report the results.

Results: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**IF YOU SELECTED OPTION B:** Conduct a creel census on a small lake to estimate catch per unit effort. Give a brief description of how you did the creel census.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What were the results of your census? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**IF YOU SELECTED OPTION C:** Examine the stomach contents of three species of fish and record the findings:

Scout Name: \_\_\_\_\_ Unit # \_\_\_\_\_ Date: \_\_\_\_\_

Fish species: \_\_\_\_\_ Stomach contents: \_\_\_\_\_

Fish species: \_\_\_\_\_ Stomach contents: \_\_\_\_\_

Fish species: \_\_\_\_\_ Stomach contents: \_\_\_\_\_

- It is not necessary to catch any fish for this option. You may visit a cleaning station set up for fishermen or find another, similar alternative.

**IF YOU SELECTED OPTION D:** Make a freshwater aquarium. Include at least four species of native plants and four species of animal life, such as whirligig beetles, freshwater shrimp, tadpoles, water snails, and golden shiners. After 60 days of observation, discuss with your counselor the life cycles, food chains, and management needs you have recognized. Give a brief description of your aquarium.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Fish and Wildlife Management Merit Badge (Continued)**

What are the four native plants you included in your aquarium?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

What are the four species of animal life you included in your aquarium?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Name \_\_\_\_\_ District and Troop Number \_\_\_\_\_

# FISHING MERIT BADGE



**Requirement 7.** Catch two different kinds of fish by any legal sportsmanlike method and identify them.

Fish #1      Species \_\_\_\_\_  
                  Date \_\_\_\_\_  
                  Length and/or Weight \_\_\_\_\_  
                  Method Used and Bait \_\_\_\_\_  
                  Witness \_\_\_\_\_

Fish #2      Species \_\_\_\_\_  
                  Date \_\_\_\_\_  
                  Length and/or Weight \_\_\_\_\_  
                  Method Used and Bait \_\_\_\_\_  
                  Witness \_\_\_\_\_

Name \_\_\_\_\_ District and Troop Number \_\_\_\_\_

# JOURNALISM MERIT BADGE



## Requirement 2A (Print Journalism is offered at camp.)

2a2. Visit a newspaper or magazine office Ask for a tour of the various divisions, (editorial, business, and printing). During your tour, talk to an executive from the business side about management's relations with reporters, editors, and photographers and what makes a "good" newspaper or magazine.

Scout Name: \_\_\_\_\_ Unit # \_\_\_\_\_ Date \_\_\_\_\_

Date: \_\_\_\_\_ Parent Verification Signature \_\_\_\_\_

# NATURE MERIT BADGE



All of the requirements in five fields must be completed to earn the badge. Requirements 4a1; 4b1&2; 4c1,2,&3; 4g1&2; and 4h1&2 may be completed at camp. Choose one other area to complete prior to camp.

**Requirement 4:**

**IF YOU SELECTED "BIRDS":** Make and set out a birdhouse OR a feeding station OR a birdbath. List what birds used it during a period of one month.

List of birds: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_ Parent Verification Signature \_\_\_\_\_

**IF YOU SELECTED "INSECTS OR SPIDERS":** Hatch an insect from the pupa or cocoon; OR hatch adults from nymphs; OR keep larvae until they form pupae or cocoons; OR keep a colony of ants or bees through one season.

Date: \_\_\_\_\_ Parent Verification Signature \_\_\_\_\_

**IF YOU SELECTED "FISH":** Catch and identify two species of fish. Collect four kinds of animal food eaten by fish in the wild.

Species of fish caught: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

List of four kinds of food collected: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_ Parent Verification Signature \_\_\_\_\_

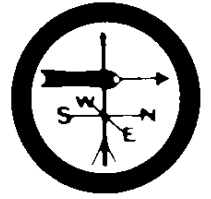
**IF YOU SELECTED "MOLLUSKS & CURSTACEANS":** Collect, mount and label six shells of mollusks or crustaceans. Bring your collections to camp and show your counselor.

Date: \_\_\_\_\_ Parent Verification Signature \_\_\_\_\_

Name \_\_\_\_\_ District and Troop Number \_\_\_\_\_



# WEATHER MERIT BADGE



The following requirement must be finished before camp in order to complete the merit badge.

**Requirement 8.** You have been given two options for this requirement. Select and complete ONE of them.

**IF YOU SELECTED OPTION A:** Make one of the following instruments: wind vane, anemometer, rain gauge or hygrometer.

Which instrument did you build? \_\_\_\_\_

Briefly describe how you built your instrument. \_\_\_\_\_

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Bring the instrument to camp to show your counselor.

To complete this requirement you are asked to keep a daily weather log for a one-week period. A sample log has been included (see next page) and you may use it if you choose, or you may choose to create your own log. Fill out the log daily for one week. Show the log to your counselor when you get to camp.

**IF YOU SELECTED OPTION B:** Visit a National Weather Service office or talk with a local radio or television weathercaster, private meteorologist, local agricultural extension service office or university meteorology instruction.

Who or what did you visit? \_\_\_\_\_

Give a brief description of your visit: \_\_\_\_\_

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What type of weather is most dangerous or damaging to your community? \_\_\_\_\_

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How do severe weather and flood warnings reach the homes in your community? \_\_\_\_\_

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Name \_\_\_\_\_ District and Troop Number \_\_\_\_\_

**Weather Merit Badge (Continued)**

# DAILY WEATHER LOG

Beginning Date	Wind Direction	Wind Speed	Temp	Precipitation	Types of Clouds Present	Dew or Frost	Official Forecast	Actual Weather Conditions
MONDAY Time: _____								
TUESDAY Time: _____								
WEDNESDAY Time: _____								
THURSDAY Time: _____								
FRIDAY Time: _____								
SATURDAY Time: _____								
SUNDAY Time: _____								

About what time each day did you record your observations? \_\_\_\_\_

Was your instrument successful at gathering data? \_\_\_\_\_

Name \_\_\_\_\_ District and Troop Number \_\_\_\_\_

