



Virtual Scouts BSA Workshop Requirements



1. Bird Study



COMPLETED DURING WORKSHOP



COMPLETED AT HOME

REQUIREMENT NUMBER	REQUIREMENT DESCRIPTION
1	Explain the need for bird study and why birds are useful indicators of the quality of the environment. Describe how birds are part of the ecosystem.
2	Show that you are familiar with the terms used to describe birds by sketching or tracing a perched bird and then labeling 15 different parts of the bird. Sketch or trace an extended wing and label six types of wing feathers.
3	Demonstrate that you know how to properly use and care for binoculars. a. Explain what the specification numbers on the binoculars mean. b. Show how to adjust the eyepiece and how to focus for proper viewing. c. Show how to properly care for and clean the lenses. d. Describe when and where each type of viewing device would be most effective.
4	Demonstrate that you know how to use a bird field guide. Show your counselor that you are able to understand a range map by locating in the book and pointing out the wintering range, the breeding range, and/or the year-round range of one species of each of the following types of birds: a. Seabird b. Plover c. Falcon or hawk d. Warbler or vireo e. Heron or egret f. Sparrow g. Nonnative bird (introduced to North America from a foreign country since 1800)
5	Observe and be able to identify at least 20 species of wild birds. Prepare a field notebook, making a separate entry for each species, and record the following information from your field observations and other references. a. Note the date and time. b. Note the location and habitat. c. Describe the bird's main feeding habitat and list two types of food that the bird is likely to eat. d. Note whether the bird is a migrant or a summer, winter, or year-round resident of your area.



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6	Describe to your counselor how certain orders of birds are uniquely adapted to a specific habitat. In your description, include characteristics such as the size and shape of the following: (a) Beak (b) Body (c) Leg and foot (d) Feathers/plumage
7	Explain the function of a bird's song. Be able to identify five of the 20 species in your field notebook by song or call alone. For each of these five species, enter a description of the song or call, and note the behavior of the bird making the sound. Note why you think the bird was making the call or song that you heard.
8	Do ONE of the following: (a) Go on a field trip with a local club or with others who are knowledgeable about birds in your area (1) Keep a list or fill out a checklist of all the birds your group observed during the field trip. (2) Tell your counselor which birds your group saw and why some species were common and some were present in small numbers. (3) Tell your counselor what makes the area you visited good for finding birds. (b) By using a public library, the internet, or contacting the National Audubon Society, find the name and location of the Christmas Bird Count nearest your home and obtain the results of a recent count. (1) Explain what kinds of information are collected during the annual event. (2) Tell your counselor which species are most common, and explain why these birds are abundant. (3) Tell your counselor which species are uncommon, and explain why these were present in small numbers. If the number of birds of these species is decreasing, explain why, and what, if anything, could be done to reverse their decline.
9	Do ONE of the following. For the option you choose, describe what birds you hope to attract, and why. (a) Build a bird feeder and put it in an appropriate place in your yard or another location. (b) Build a birdbath and put it in an appropriate place. (c) Build a backyard sanctuary for birds by planting trees and shrubs for food and cover.



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10	Do the following: (a) Explain the difference between extinct, endangered, and threatened. (b) Identify a bird species that is on the endangered or threatened list. Explain what caused their decline. Discuss with your counselor what can be done to reverse this trend and what can be done to help remove the species from the endangered or threatened list.
11 <i>(please complete research before workshop)</i>	Identify three career opportunities connected to the study of birds. Pick one and find out the education, training, and experience required for this profession. Discuss with your counselor if this profession might interest you.



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2. Environmental Science



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1	Describe the meaning of environmental science in your own words. Explain how you think we can use science to understand, conserve, and improve our environment.
2	Ecology. Do the following and discuss with your counselor: (a) Chose an area approved by your counselor and observe (sight, sound, and smell) its ecosystem over a two-day period. (b) Make notes about the living, nonliving (e.g. rocks) and formerly living components. Include information about interactions among the components, including the food chain, predators, native species, and invasive species and identify how human activities have affected the ecosystem.
3	Air Pollution. Do ONE of the following and discuss with your counselor: (b) Learn what Particulate Matter (PM) is, how PM gets into the air, what the harmful effects of PM are, and what is being done to reduce PM in the air. Then, perform an experiment to test for particulates that contribute to air pollution. (c) Discuss how air pollution and transportation affect each other by giving at least three examples. Then, compare two modes of transportation (e.g., gasoline-powered v. electric vehicles, gasoline-powered car v. bicycle, etc.). (d) Learn about the Clean Air Act. Make notes on when it was passed, its environmental goals, what progress has been made and what remains to be done to achieve the law's goals. Describe the impact, benefits, and costs of the law as well as what is required to implement and enforce the law.
4B	Water Pollution. Do ONE of the following and discuss with your counselor: (b) Identify a local or regional area that experiences periodic flooding and/or drought. Collect facts on prior event(s) and investigate the environmental impacts of these extreme events.
5B	Land Pollution. Do ONE of the following and discuss with your counselor: (b) Learn about the erosion process and identify an example of where erosion occurs. Determine where the eroded material ends up and how erosion can be minimized.



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6	Rare, Threatened, or Endangered Species. Do ONE of the following and discuss with your counselor: (a) Do research on one endangered species found in your state. Learn about its natural habitat, why it is endangered, what is being done to preserve it, and how many individual species are left in the wild. Prepare a 100-word report about the species and include a drawing or photo. Present your report to your patrol or troop. (b) Do research on one species that was endangered or threatened but that has now recovered. Learn about how the species recovered, and what its new status is. Prepare a 100-word report on the species and include a drawing or photo. Present your report to your patrol or troop. (c) With your parent or guardian and counselor's approval, work with a natural resource professional to identify a completed project that has been designed to improve the habitat for a threatened or endangered species in your area. Visit the site and report on what you saw to your patrol or troop.
7	Pollution Prevention, Resource Recovery, and Conservation. Do ONE of the following and discuss with your counselor: (a) Determine five ways to conserve resources or use resources more efficiently in your home, school, or camp. Practice at least two of these methods for at least one week. (b) Explain Resource Recovery and why it is important to reduce pollution. Collect samples or take photos of ten items that can demonstrate the principle of Reduce, Reuse, Recycle. Explain your collection, how these materials are currently handled, and potential improvements. (c) Identify five items in your household that will become hazardous waste. Explain how they should be properly stored, what special care is needed for disposal, and proper disposal options available in your area.
8A	Pollination. Do ONE of the following and discuss with your counselor: (a) Investigate pollination and its importance to our environment and ecosystems. Make a list of five pollinators and the plants that attract them in your region. Explain the importance of pollinators and what Scouts can do to support pollinators in their area.
9	Invasive Species. In your community or camp, investigate two invasive plant or animal species. Learn where the species originated, how they were transported to this ecosystem, their life history, how they are spread, how they impact the native ecosystem, and the recommended means to eradicate or control their spread. Discuss what you learned with your counselor.



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10	Identify the environmental impact topics that would need to be addressed for a construction project such as building a house, adding a new building to your Scout camp, or one you create on your own that is approved by your counselor. Evaluate the purpose and benefit of the proposed project, alternatives (including a no-action alternative), and any environmental consequences. Discuss with your counselor.
11 (Please complete research before workshop)	Identify three career opportunities that would use skills and knowledge in the environmental science field. Pick one and research the training, education, certification requirements, experience, and expenses associated with entering the field. Research the prospects for employment, starting salary, advancement opportunities and career goals associated with this career. Discuss what you learned with your counselor and whether you might be interested in this career.