



This workbook can help you, but you still need to read the merit badge pamphlet.
This Workbook can help you organize your thoughts as you prepare to meet with your merit badge counselor

You still must satisfy your counselor that you can demonstrate each skill and have learned the information.

If a requirement says that you must take an action using words such as "discuss", "show", "tell", "explain", "demonstrate", "identify", etc, that is what you must do.

The requirements were last issued or revised in 2023 • This workbook was updated in November 2025.

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3. Air Pollution. Do ONE of the following and discuss with your counselor:

- ☐ 1. 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.
- ☐ 2. 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.).
- ☐ 3. 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.

4. Water Pollution. Do ONE of the following and discuss with your counselor:

- ☐ 1. Identify where your community sources water, how it is treated, and disposed. Obtain and review a water quality report from your area.
- ☐ 2. 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.
- ☐ 3. Learn about the Clean Water 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.

5. **Land Pollution. Do ONE of the following and discuss with your counselor:**

- ☐ 1. In an area (yard, park, golf course, farm, etc.) approved by your counselor, make a list of the pesticides, herbicides, and fertilizers used and how often they are applied. Identify the benefits of their use and the environmental impact, including effects on non-target species (including humans), what happens if the chemicals infiltrate into the groundwater, and what happens to any runoff of the chemicals.
- ☐ 2. 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.
- ☐ 3. Learn about a land pollution incident that led to a site being listed on Environmental Protection Agency's Superfund National Priority List. Identify what caused the incident, what the effects were on the environment, what remediation has been done, and the current condition of the site.

6. **Rare, Threatened, or Endangered Species. Do ONE of the following and discuss with your counselor:**

- ☐ 1. 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.
- ☐ 2. 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.
- ☐ 3. 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.

- ☐ 1. 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.
- ☐ 2. Visit an area with flowering plants during pollination season for an hour to observe pollination. Record which pollinators are attracted to which plant. Explain the importance of pollinators and what Scouts can do to support pollinators in their area.
- ☐ 3. Learn about the importance of pollination to agriculture, including the economic costs and benefits. Identify four crop-pollinator pairs. Explain the relationship of pollinators to agriculture.

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.

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.**

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11. **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**

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