



Forest Ecosystems Interest Project

Forest Ecosystems



Advanced Forest Ecosystems



Girl Scouts of Wisconsin – Badgerland Council
For Girl Scout Cadettes, Seniors and Ambassadors

Forest ecosystems are an important resource for humans today and have been through history. Numerous economic and social benefits come from the harvesting of forest products and the recreational opportunities provided by forest, but increasingly humans are also coming to understand the ecological services that forests provide.

To earn the **Forest Ecosystems Interest Project Award**, complete 2 Skill Builders activities, 1 Technology activity, 1 Service Project Activity, 1 Career Exploration Activity, and 2 additional activities from any category.

Once you have completed the Forest IPA, you have the option of doing additional activities to earn the **Advanced Forest Ecosystems Interest Project Award**. To do this, complete an additional activity in each category, plus another activity from any category.

Skill Builders

1. The carbon cycle is a complex global system that affects weather conditions around the world. Learn more about some aspect of how forests contribute to the global carbon cycle by learning more about the processes of photosynthesis and decomposition.
2. The products that come from forests are important tools that we use in our everyday lives, and the production of these products also creates many economic benefits. However, ultimately many of these products end up in landfills, creating concerns about how our large quantities of waste should be managed. Reducing the amount of forest products we use would mean that fewer trees are cut down and less waste would need to be put in a landfill. To get an idea of how much waste is created by wood products, design and conduct an experiment to determine the amount of unsolicited junk mail your family receives over a given period of time. From your experiment, extrapolate the amount of junk mail that might be received by all the households in the US over a year. Develop strategies for addressing and resolving the problem of paper waste.

3. Over time plants and animals develop physical and behavioral adaptations that help them survive in their specific habitat. Choose 3 forest plants and 3 forest animals native to Wisconsin and identify what characteristics they have for adapting to the climate and conditions of their habitat.

4. Because forests are valuable as a resource for wood products, provide recreational opportunities, and are important for providing habitat for animals, maintaining biodiversity, and controlling global climate patterns, there is debate over how public national and state forests should be used in the US. Learn about the different sides of this debate (perhaps by collecting newspaper clippings or reading online information), and decide and discuss with others what you think the best policies are for forest management.

5. Trees, of course, are the most prominent feature of forest ecosystems. Visit a forest and select a single tree on which to focus your attention. Then, using your observation and research skills, compile a report on that tree that might include its species name, estimated age and size, life history (the developmental phases the tree goes through until its natural death), the geographic range in which it grows, and what products it has yielded to humans through history. You might also want to sketch or photograph your tree.

Technology

1. Consider how technology has shaped today's culture in comparison with culture 100 years ago. For example, the Ford Motor Company, the first supplier of automobiles in this country, was not founded until 1903, so a century ago there were no gas stations, strip malls on the outskirts of town, or six lane paved highways. Changes in everyday technology have drastically changed the way that people spend their time. Based on these cultural changes, there have in the past one hundred years also been many changes in the way that we use land and natural resources. Research how technological changes have driven land use changes in your community. How have these changes affected forested and other natural areas? Try to create a timeline detailing events in the history of the land your community resides on.

2. Like most scientists, the people who study forest ecosystems rely on scientific equipment to make meaningful measurements of forest processes. Do a web search, contact a forest scientist or ask a science teacher to help you learn about the types of equipment used to monitor forests.

3. Consider how forests were managed in the past with how they are today. How have forest management techniques changed? What has brought about these changes? What impact do they have on the health of the forests and the industries dependent on forest products?

Service Project

1. Become involved with a community organization that supports urban forests (nature centers, public parks, arboretums, your local Girl Scout Council, etc.). Volunteer to help maintain forests during workdays or help with a public event.

2. Offer your services to a troop of younger Girls Scouts learning about forests. Act as an expert by sharing your knowledge of forest ecosystems and assisting them as they learn about different components of the forest.

3. Learn about the benefits of urban forests and relay this information to community leaders. Help determine strategies that your community could use for cultivating and maintaining healthy urban forests.

Career Exploration

1. Interview by phone, email or in person someone who works in forests. This could be a forest logger, ranger, manager, scientist, etc. Ask him/her about his/her job and the specific duties for which he or she is responsible.

2. Imagine that you have decided to pursue some type of career that is related to forests. Identify your career goals, and then develop a plan and a timeline for achieving those goals. Determine what types of post-secondary education you might need for that career, and then determine what colleges and universities offer a program in that area. Decide what school and program is best suited for your needs. Also, determine what types of volunteer work and networking you might do prior to and during your post-secondary studies to gain experience in your area. You might use the Internet, guidance counselors, college students or adults working in your chosen profession to help you understand the process of becoming a professional in your chosen area.

3. There continues to be fewer female than male scientists in general in the United States, and this holds true for scientists that study the ecology of terrestrial ecosystems like forests. Identify some of the cultural circumstances that might account for this imbalance, and make a prediction about whether this trend might continue in the future. Have a discussion with your peers about this issue.

4. Identify 5 industries that are dependent on forest resources. Which of these industries exists in Wisconsin? What are the economic and social benefits of each industry? Have a discussion about the ways in which industry can be a part of natural conservation efforts.

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