

CANYON KEEPERS IPP

As in GSUSA badges, seven activities are required, those listed and two others of your choosing)

SKILL BUILDERS (2 required)

1. Participate in erecting birdhouses or feeding stations, and then monitor them for use. Learn about birds that migrate through your community. What can you do to help ensure their safe journey?
2. Observe shore and water birds in your area. Notice which are seen only at water's edge, which are alone, which in groups. Determine what at least 5 of the species in your area eat and where they find shelter. Learn which are resident species and which are traveling through. Be able to identify these 5 species by some characteristic (such as feeding behavior-diving, or wading) and know both their genus and species name.
3. Find out about the fish in your region. If possible, participate in an electrofishing study, or a seine sampling in both deep water and at a shoreline. Make a list of the species found in both areas, and compare them. What might cause any difference seen?
4. Do an inventory of a stream that is draining into a lake or river. Be sure to get permission from the landowner before making this visit. Lift some stones (follow safety precautions and lift stone away from your face) and make note of what species you find there. Take note of the water flow speed, and also whether the species are free-living, mud-living, living on the rocks, under the rocks, upstream or downstream. Then follow the stream to the shore of the lake or river, and try to determine whether the species you found upstream are also living in the larger body of water. Why? What current effect can you see?
5. Make a kick net and collect insects from three areas: a riffle (fast moving water), a pool (still water) and along the edge in the leaf litter. Sort the insects you find, emptying the net after each area into a white non-glass container (such as a white refrigerator tray) and identify the insects using a guide book or dichotomous key.

You can see a picture of this type net at:

http://www.benmeadows.com/store/product_group.asp?dept_id=2392&parent_id=3839&src=tl-ink

A key can be found at:

<http://www.people.virginia.edu/~sos-iwla/Stream-Study/Key/MacroKeyIntro.HTML>

6. Make a sketch of the area you are working, marking the riffles, pools, and any landmarks. Note what the substrate is, and also any plant communities near the bank that you can identify.
7. Learn to read a topographic map- look at one of your area, and outline where the watershed boundaries are. Can you see how an environmental accident miles away can affect your local area? Look at a map of a body of water. Learn to read it, too. It is similar to a topo map in several ways. Find a few. Also find out how

to determine actual depth from one, submerged ponds, underwater springs, and the various hazards under a river surface.

8. Sit and be still at a body of water. Look up and observe the sky. Try and imagine what the canyon might have looked like before water flow was managed. Write a poem about this area.
9. Study one of the exotic plants in the Tennessee River Gorge (or in your river/canyon area) and learn about its native country, and its role in the environment there. Then contrast that with the role it plays in our area. Learn how the plant got here, and how it is controlled.
10. Learn about benthic zones. What are they? Choose one, and list the typical plant, animal, and insect communities typically found in your area in that zone. What do they have in common?

TECHNOLOGY (1 required)

1. Explore the role wildlife sanctuaries play in preservation of species currently threatened. How do captive breeding and rehab programs work? Do you feel they are correct, or do you feel they interfere in natural progression?
2. How does electro-fishing work? Can it hurt the fish when done properly? What happens to turtles when their area is electrofished? Do you feel that it is a valuable tool to use when monitoring bodies of water? Why, or why not? Write a long paragraph on your opinion.
3. Learn about habitat studies. Check with NABA (<http://www.naba.org/>), the Sierra Club (<http://www.sierraclub.org/education/programs.asp>), <http://www.nwf.org/frogwatchUSA/>, or the ornithological society in your area (<http://astro.temple.edu/~psmith/biglist/birding.htm>) for a project you can participate in. Here are some more sites that list monitoring programs you can help with:
<http://www.nwf.org/frogwatchUSA/display.cfm?showState=il&showSite=1126>
<http://froghavenfarm.homestead.com/Froghavenfarm.html>
<http://www.leaps.ms/>
<http://www.mp2-pwrc.usgs.gov/naamp/>
4. Participate in a population- monitoring program, and learn the skills necessary to monitor different types of populations.
5. How do land management and preservation programs work? Look into several modes of funding, tools used (such as fee-simple transfers) and compare private land trusts to state parks and greenways (local government) on the basis of their historical successes.

SERVICE (1 required)

1. Design and make posters, flyers or exhibits for libraries or schools to share information about the specific needs of protected areas in your community, such as volunteer work that needs manpower, or simply list opportunities to do clean up. Give a phone number and contact name on your flyers/posters.

2. Work with younger girls to increase their environmental awareness. Create a game that illustrates the need for preserving our wild areas.
3. Insects are classified by the way they feed. Look in a guide book and make a poster about the different insect types in your area. Show how they are adapted to their feeding mode. Give this poster to a school group or group of younger girls. Illustrate on the poster how insects found can indicate the health of a body of water.
4. Remove exotic species from a sensitive habitat. Get permission to do the work, and be sure you have identified the exotic species correctly. Use appropriate safety precautions when working with tools.
5. Organize or participate in a cleanup of the area that borders a body of water. There are lots of programs already in place that would love to have your help: the Green Team(highway beautification), Adopt-A-Highway, the River Rescue are a few.
6. Organize a recycling program in an area that affects a body of water.
7. Participate in a 'count' study- there are many to choose from, bird feeder counts, butterfly counts, migration studies of various species. You can locate one for your area by calling either your nature center or a local university.

CAREER EXPLORATION (1 required)

1. Identify several women working in environmental careers in your area. Find out what sort of education is necessary to work in each field, what jobs there are that require no college, or two years of college, and what sort of specialties those jobs focus on. Write a comparison of at least 4 environmental careers including both educational requirements and difficulty of acquiring a position in those fields.
2. Is land management the way to go? From the perspective of a girl entering environmental studies, check with several local agencies and find out what salaries range, what education a land manager must have, and what sort of career possibilities and job opportunities there are in this field.
3. Take a look at a college course catalog under 'Environmental Studies' or Biology. Pick a field or two you have an interest in, and learn what classes are required to complete the degree program in that field.
4. Volunteerism. What is it? What career opportunities are available in this field for a young woman choosing a career? List at least three jobs in your area that require a good understanding of volunteerism and how you would go about acquiring manpower for a particular project.