



BROWNIE SCOUTS



Try-It
Eco-Explorer



Leader Activity Guide

Any questions or comments on this Leader Activity Guide are welcome. Contact the Director of Education at:

Jefferson National Expansion Memorial
11 North Fourth Street
St. Louis, MO 63102
(314) 655-1600

Produced by the Division of Museum Services and Interpretation



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To the Leader

Scouting and the National Park Service

The Girl Scouts of the U.S.A. and the National Park Service have a lot in common. Both organizations have a long heritage, beginning in 1912 and 1916, respectively. Both organizations appreciate and preserve nature, the environment and our nation's history. Both are recognized by their distinctive uniforms, badges, and emblems. Scouting and the National Park Service have common goals and missions, particularly in educating today's youth to be responsible and productive citizens. The ideas of scouting and national parks have since expanded to countries around the world.

The National Park Service offers a variety of experiences for Girl Scouts. Join us for exciting and fun-filled programs that will help your troop earn their badges, while scouting in the national parks.

User-Friendly Format

To prepare your scouts, use the two Pre-Visit Activities in this guide before you visit the Museum. We also suggest you use the two Post-Visit Activities after your visit.

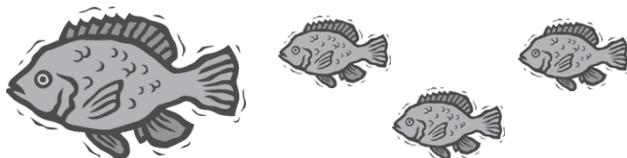


Program Description

Ecology is the study of how plants and animals live together in the environment. Each environment offers a unique ecological system to discover. While traveling on the Gateway Arch Riverboats, your scouts will explore the ecology of the Mississippi River. Scouts will have a chance to make their own observations and draw their own conclusions about the river environment. By focusing on the habitat of a commonly seen bird, learners will gain an understanding of the importance of food chains and food webs as well as the need to protect all species from endangerment.

When your troop finishes the Pre-Visit Activities (Eco-Explorer Activities, Exploring Nature #1 and What's a Habitat #2), participates in this program aboard the Gateway Arch Riverboat (Eco-Explorer Activity, Food Chain #4) and completes the Post-Visit Activities (Eco-Explorer Activities, Speak Up For Animals #5, Helping Wildlife #6 and Make a Habitat #3) they will meet all the requirements for the Brownie Eco-Explorer Try-It patch. In addition, there is also a Jefferson National Expansion Memorial patch available to your Girl Scouts, for a nominal fee, to recognize their participation in this program.

As the leader of your group, you are a positive role model and an essential part of this program. Thank you for letting us share in the responsibility of teaching your Girl Scouts to make positive choices and helping them to be responsible and productive citizens.

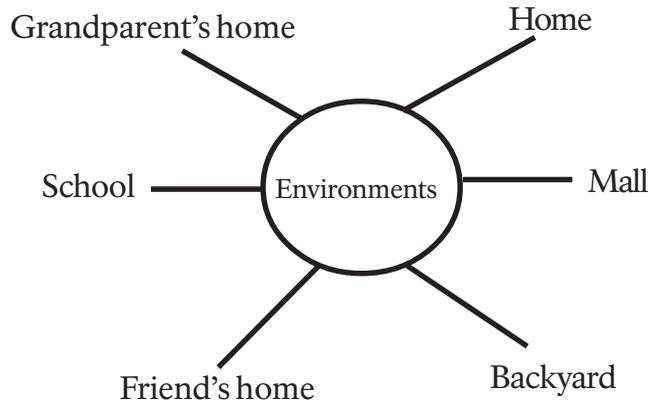




Observing Your Environment

The Eco-Explorer Try-It looks at the study of ecology. Ecology is the study of how plants and animals live together in their environment. When a scientist studies ecology, she must consider everything from a dandelion to an oak tree, from a spider to a human being and how they affect or depend on each other. During your program on the Gateway Arch Riverboat we will be looking at how the plants and animals in and along the Mississippi River interact with each other.

Your environment is everything that surrounds you, including your family, your pets, your garden, your house, the air you breathe, etc. One thing that separates humans from animals is that we can move from one environment to another. For example, when you wake up you are in your home environment but your school is another environment. Humans can also make changes to their environment. For example, you can turn the heat up or down or turn the lights on or off. Using a word web, brainstorm with your scouts all the different environments they find themselves in during the course of the day.



Pre-Visit Activity #1

The study of any science requires excellent observation skills. Both the Eco-Explorer Try-It as well as the Gateway Arch Riverboat program activities require that your scouts look for certain things. To prepare your scouts for these activities, you may want to begin by playing the following game.

While sitting in a group, call out each of the phrases below. Have the scouts observe their surroundings and the first one to spot an item with the given characteristics should raise their hand and share the answer with the rest of the group.

something red
something you can open
something old

something round
something soft
something new

Eco-Explorer Try-It Requirement #1

Unlike people that lived long ago, today we often find ourselves removed from nature. Exploring and appreciating our world's natural environment is something we should make time to do. Cut and copy the list found on page 14 in the Appendix. Have scouts use meeting time or free time at home to complete the activity. Please instruct them to bring the checklist with them to the program where the park ranger will use it as a part of the presentation.

Explore a Career

Park rangers take care of national parks by protecting animals, the environment, and natural and cultural resources.

They also teach visitors like you the story of their park and how you can help preserve and protect it. Listen to the ranger's stories and messages.



Discovering Habitats

In Pre-Visit Activity #1 you began your study of ecology, the way plants and animals interact with each other. You also talked about environments and sharpened your observation skills. As you discussed, there are many different types of environments, all of which provide a home for the estimated 10-30 million species that live on our planet, Earth.

Habitat is another name for where a plant or animal is found. A habitat provides everything that a plant or animal needs to survive. It is more specific than an environment, it is like the plant or animal's address. Copy, cut and distribute the required activity on the following page. Unscramble the words to discover the four things every living thing needs to survive.

Eco-Explorer Try-It Requirement #3

Have scouts pick one of the animals from the following list (or any other one you like) and make a pretend habitat for it to live in. Don't forget the food, water and shelter. Construct the habitat out of a shoebox, using buttons, clay, felt, pipe cleaners, cotton balls, etc. Schedule one of your meetings to be a habitat show and tell. This activity can be done before or after your Gateway Arch Riverboat program.

squirrel	bear	snake
monkey	fish	turtle

Pre-Visit Activity #2

Unscramble the words below. The clue underneath the blanks will help you. Then you will discover the four most important things that an animal (or plant) needs in order to survive.

1. _ _ _ _ _
o f o d

Clue: When you are hungry and your stomach is growling, you need to find some of this.

2. _ _ _ _ _
t a w r e

Clue: When you are thirsty, this is the best liquid for you to drink, and it's not soda.

3. _ _ _ _ _
p a s e c

Clue: This one word means a place to live and it rhymes with place.

4. _ _ _ _ _
t e l h s e r

Clue: If you were outside and there was a bad storm, you would look for this type of place.

Now you know what is found in a habitat. A habitat is the place where an animal or plant lives and finds the four things above. It is like their address. Ask your leader or the park ranger to check your answers with those found on page 15 in the Appendix.

copy/cut



Did You Know?

The St. Louis Children's Aquarium has many exhibits on a variety of water habitats, including one on the Mississippi River. To contact them you may call 314-647-6011 for information and reservations.



Eco-Explorer

Boat Etiquette
Please read the instructions listed below to your scouts before boarding the Gateway Riverboat.

Registering

Upon arrival, register your group with the park ranger at the boat dock and share the information on Boat Etiquette with your group.

Briefing

Your scouts should have completed and brought with them the Exploring Nature check-off list found in Pre-Visit #1. They should also have completed the What's a Habitat? activity found in Pre-Visit #2.



Did You Know?

In the Museum Store at the Gateway Arch you can find a variety of books which help young students learn about our environment.

The park rangers and riverboat crew are glad we are visiting with them today. They need our help to preserve this national park and protect us—their visitors. Please pay attention to the following:

*There is no running or pushing allowed at any time. Refrain from using loud voices.

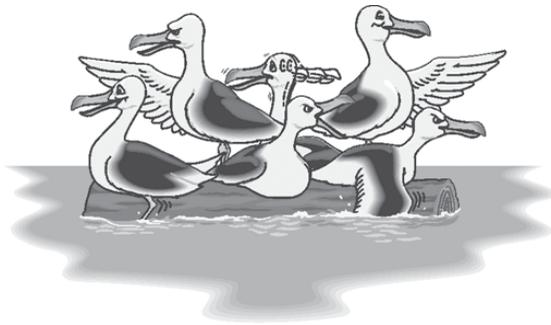


Interpretive Program

Using hands-on items, photographs and riverfront observations, the park ranger will present an interpretive program focusing on the ecology of the Mississippi River, specifically habitats and food chains.

Investigative Learning Activity

The scouts will be divided into three smaller groups. Each group will be given a specified number of minutes to make their own observations about the habitat of birds found along the river. They will then present their findings to the larger group. After some group discussion, the same small groups will be given a tangible food chain to assemble, drawing on their recently gained knowledge.



Safety Tips

This is a U.S. Coastguard inspected vessel. Life jackets are located on the outside decks. Donning instructions are located on all life jacket lockers. If an emergency should develop, please remain calm and instructions will be given over the P.A. system.

- *Be careful! The steps on the boat are steep and can be wet.
- *All the doorways have raised thresholds, be careful not to trip.
- *Remain in your group at all times. You are responsible for your behavior.
- *Soft drinks, candy, and gum are not allowed.



Endangered Animals

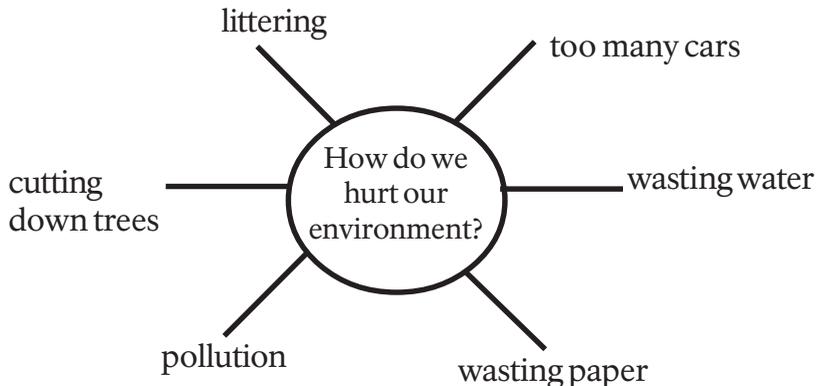


Did You Know?

The National Park Service website www.nps.gov has a link called Nature Net which provides current information on Park Service efforts to preserve and restore wildlife and plants in our parks.

Perhaps the most familiar animal to be classified as endangered is the American bald eagle. At one time this regal bird was common throughout North America. Native Americans, as well as the early settlers, had great respect for the bird, so much so that in 1782 the United States Congress declared it our national symbol. Unfortunately, in less than 200 years, this great bird had almost completely disappeared from the face of the earth, due mainly to the actions of human beings. In 1940, the first law was passed to safeguard the eagle, followed by a series of laws protecting it. After three decades of struggle, on July 4, 1999, President Bill Clinton announced that our national symbol was no longer endangered.

As your scouts learned during the riverboat program, one extinct species can upset the entire ecological balance. So, why do we let endangerment or even extinction happen? Oftentimes people know the cause but do not know how to stop it. Sometimes, as human beings we simply do not take the time to understand how our actions affect the delicate balance of nature. Use a word web to brainstorm with your scouts how humans negatively affect our environment.

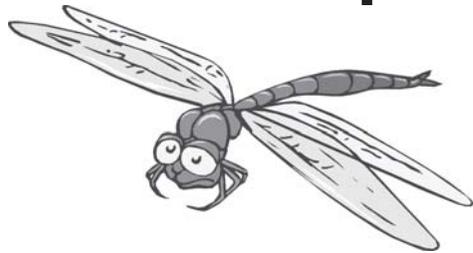


Post-Visit Activity #1

Eco-Explorer Try-It Requirement #5

As mentioned previously, the American bald eagle is probably the most well known endangered animal, at least in this country. Other animals which have received national attention and have since been removed from the endangered list are the gray wolf, the grizzly bear and the peregrine falcon. Your scouts have no doubt heard the worldwide concern surrounding the rainforest and its plants and animals. However, the problems facing our planet and its species are not always halfway across the country or halfway around the world - they can be found only miles from your home. Listed below are a variety of endangered species found in and around the St. Louis metropolitan area, all equally as important to our planet's ecosystem.

Fat pocketbook (Freshwater mussel)
American burying beetle (Insect)
Regal Fritillary (Insect - butterfly)
Pallid Sturgeon (Fish)
Illinois chorus frog (Amphibian)
Cerulean warbler (Bird)
Gray bat (Mammal)



Choose one of these endangered species or choose one from the list found in your Eco-Explorer Try-It Requirement #5 and put together a show that will tell people more about endangered species. Follow the detailed instructions in your Try-It Book.



Respecting The Environment

Our past has taught us that our planet's resources and its living things do not exist in infinite numbers. Over the years, carelessness on a worldwide level has led to great losses. Fortunately we have seen the consequences of and changed such destructive behaviors as over hunting or dumping pollutants and waste into rivers. However, some of the destruction that continues is a result of habits and conditions that are not easy to control.

Today most ecologists, biologists and conservationists agree that habitat change and/or destruction poses the greatest threat to our wildlife. However, the activities that continue to cause these problems are those which are needed to sustain the world's ever-growing population. Use the diagram on the following page to get your scouts thinking and talking about human needs and how they negatively impact the environment.

Eco-Explorer Try-It Requirement #6

Just like the National Park Service, as a Girl Scout, you care about the earth. When you recite the Girl Scout Law, you promise to "use resources wisely." Refer to the Eco-Explorer Try-It Requirement #6, "Helping Wildlife," and try to complete one or more of the activities. Work with your leader or another adult. Make sure you, your family and your friends are following these easy, environmentally friendly suggestions:

- * Use both sides of your paper when possible.
- * Turn off the water while brushing your teeth.
- * Don't litter.
- * Turn off the lights when you leave a room.

Post-Visit Activity #2

Exploring the Issues

Use the chart below to explore with your scouts how maintaining our needs often interferes with this planet's ecological balance. The middle column gives a description of a specific human action which in turn provides humans with their basic needs and at the same time negatively impacts the environment. Complete the chart to illustrate both sides of the issue. Answers are found on pages 15 and 16 in the Appendix.

Provides humans with...	Human action	This harms the environment because...
	A farmer sprays pesticides on his crops to keep the insects from eating them.	
	A construction company clears a forested area in order to build a new subdivision.	
	A power company decides in order to serve the growing population of their community they must build a dam on the river.	

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Appendix

Pre-Visit Activity #1: Exploring Nature

Exploring Nature

Try to find both living and nonliving things in the natural environment. You'll need a pencil. When you find an item, check it off. Do your best not to harm, move, or take away any of these things. Animals and plants may depend on them.

Nonliving Things

- dew drop
- smooth rock
- shiny rock
- sand
- broken rock
- water
- sunlight
- clouds
- rock piles/cliffs

Living Things

- flat green leaf
- green leaf with pointy edges
- green leaf with insect holes
- insects (ant, ladybug, spider, etc.)
- flower
- cactus
- mushroom
- moss
- squirrel
- chipmunk
- bird
- worm

Signs of Living Things

- ant hill
- bird nest
- bones
- broken twigs or branches
- brown leaves on the ground
- bits of fur or feathers
- spider web
- animal footprint

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Pre-Visit Activity #2 - What's a Habitat Answers

1. food 2. water 3. space 4. shelter

Post-Visit Activity #2 - Exploring the Issues

1. **Basic discussion:** Farmers spray with pesticides to safeguard valuable crops which provide humans with food. At the same time pesticides kill certain insects which are a food source for other animals, disrupting the food chain.

Higher level discussion: Such chemicals can have long-term effects. The pesticide known as DDT, which has since been outlawed, was one of the reasons the American bald eagle became endangered. The DDT, which the eagle ingested indirectly through the food chain, interrupted the bird's production of calcium. The calcium was needed to harden the bird's egg shells. The shells became so weak they would crack when the mother sat on them.

2. **Basic discussion:** A construction company builds houses to provide humans with home and shelter. In this case, clearing a forested area destroys the habitat of hundreds of plants and animals that depend on it. Anytime a new subdivision is built it destroys the wildlife habitat of that particular environment.

Higher level discussion: How can we provide an ever-growing population with the homes they need? Support local efforts to restore and rehab old homes so as not to destroy additional habitats. Many large communities are also discovering the benefits of establishing new parks and small wildlife preserves right in the middle of populated areas. They provide new homes for a variety of species and quiet, relaxing havens for residents.



Appendix

Post-Visit Activity #2 - Exploring the Issues, continued

3. Basic discussion - Dams are often built to generate power/ electricity to communities built along rivers. As the water falls over the dam, it turns the blades which power the engine. Environmentally speaking dams disrupt the environment either by diverting water supplies to plants and animals, or simply flooding out habitats.

Higher level discussion - Dams are built for a variety of reasons. As mentioned above, some dams are built to generate power. Some dams are meant to regulate the water levels of the river allowing boats and barges to transport goods year-round. Other dams are built to simply hold back water, creating a reservoir or lake for recreational purposes. Sometimes dams are built to hold back rain water which is then let out slowly in order to provide farmers in dry areas with water for their crops. For whatever reason a dam is built it disrupts the surrounding environment.

For information on the cost of the
Jefferson National Expansion
Memorial patch, phone
The Museum Store at: (314) 231-
5474 or (800) 537-7962



Jefferson National Expansion Memorial
11 North 4th Street
St. Louis, MO 63102



Visit the Gateway Arch, Museum of Westward Expansion and
Old Courthouse on the Internet: <http://www.nps.gov/jeff>
Visit the National Park Service at:
<http://www.nps.gov>

Help conserve our natural resources!
If you have no further need for this booklet,
please return it to the Park Ranger at the Information Desk
so another scout group can use it.
Thank you!