

# Roots & Shoots

## Brownie Badge



Adapted from the Jane Goodall Institute's Roots & Shoots Program.

"Roots creep underground everywhere and make a firm foundation. Shoots seem very weak, but to reach the light they can break open brick walls. Imagine that the brick walls are all the problems we have inflicted on our planet. Hundreds and thousands of roots and shoots, hundreds and thousands of young people around the world, can break through these walls. You can change the world."

*Jane Goodall*

The Roots & Shoots mission is to foster respect and compassion for all living things, to promote understanding of all cultures and beliefs and to inspire each individual to take action to make the world a better place for the environment, animals and the human community. All Roots & Shoots members, from pre-K to university, demonstrate their care and concern for all living things through service projects in their community.

The Roots & Shoots program began in 1991 in Dar es Salaam, Tanzania, with a gathering of 12 students on Dr. Jane Goodall's back porch. The groups met with Dr. Jane to discuss a range of problems they knew about from first-hand experience that caused them deep concern. Their discussion covered topics such as pollution in the city, deforestation in the mountains, the welfare of domestic animals and the future of wild animals, including Dr. Jane's threatened chimpanzees.

These motivated young people wanted to learn more, they were willing to take action and they hoped that their peers would join with them to help make a difference, and Roots & Shoots was born.

The Roots & Shoots is based on the philosophy that:

- Every individual matters, whether human or animal.
- Every individual has a role to play.
- Every individual can make a difference.

Through the completion of a series of activities, Girl Scouts will become involved in projects to help save animals and the environment as well as each other, their communities and their world.

Membership in the Jane Goodall Institute is not required to participate in the Girl Scout Roots & Shoots program, but you may find many of the programs and resources helpful in planning and implementing your own community service activities. For more information, visit [www.janegoodall.org](http://www.janegoodall.org).

Complete a total of four activities including one Discover, one Connect, one Take Action and one other activity chosen from any category.

### Discover:

1. Find out ways to help birds through the cold winter or dry summer months. Learn where birds go when they migrate. Research and adopt one kind of bird that comes from further north to spend the winter in our area. Find out how long they are here and provide your birds with the habitat they need while they are in our area.
2. Visit a local zoo. Find out why the animals there were chosen to be there. Are there any endangered species? Where are the natural habitats for these animals? Do other zoos have some of the same species of animals?
3. Learn about Monarch butterflies. They travel great distances to their winter habitat stopping along the way for food. Plant or visit a butterfly garden and observe how many butterflies visit the garden. Discuss what would happen if their winter or summer habitats were destroyed.
4. Learn where seeds come from and how they grow. Go on a hike in the woods to find seeds and plants in various stages of growth. Start a window garden. Find out which part of the new seedling is the root and which part is the shoot. What is each component's function?

**Connect:**

1. Go on a hike to observe animals, birds and insects in their natural habitat. Make a list of the different species and how many of each you have seen. Mark down what they were doing and how they reacted to your presence in their habitat.
2. Visit an animal shelter. Do the animals there have enough food, water and bedding? Where do the animals come from? Find out how your troop can help support the shelter or enrich the animals' lives.
3. Imagine what it would be like to return home only to find that your home has been destroyed, your water supply was low or your major source of food was gone. Make up a play or puppet show on how wild animals might respond in a similar situation when part of their habitat has been destroyed.
4. Organize a "zero" energy day for your troop. Brainstorm ways that you can use less electricity and less gasoline. Use your own energy as much as possible. Walk when you can and get up with the sun and go to bed with the sun.

**Take Action:**

1. Take part in a community clean up, a watershed clean up or help plant trees in your community.
2. Make bird feeders for the residents of a local nursing home or for patients at a children's hospital.
3. Visit a senior center. Pair up with a resident for the "Story Telling" activity.

**The Window Seed**

Purpose of this project is to discover what a developing seed looks like.

**Materials:**

- A clear plastic sandwich bag
  - A paper towel
  - A radish, bean or sunflower seed
  - A spray bottle with water
  - Cellophane tape
1. Fold the paper towel into a square.
  2. Place the seed in between the layers of the paper towel.
  3. Spray the paper towel with water until it is very moist but not soaking wet.
  4. Place the paper towel in the plastic bag and tape the bag to a window that gets a fair amount of sun.
  5. After about a week the seed will sprout a root and a shoot. Discuss the difference between the root and the shoot. What is the function of each part of the plant?
  6. Finally, transport the seedling to a flowerpot or outdoors.

From the Roots & Shoots for Young Children curriculum

## Story Telling

### Materials:

- Sheets of paper
- Pens
- Scissors

Group Activity: This old-fashioned paper game is a great way to break the ice. The girls pair up with senior citizens and they take turns telling stories about their lives. Rather than have fortunes hidden under the folded paper, it contains topics for story telling. Detailed directions for folding this toy are below. However, there may also be a student in the group who knows how to make these toys.

Directions for folding a storyteller:

- Take a piece of letter size paper and fold the upper right hand corner down to the left side to form a square and cut off the bottom.
- Take the square and fold it in four quarters. Fold four corners into the center and then fold that square in half.
- Tuck your fingers in the four little pockets.
- Write the name of four colors on four outside sections.
- Write the numbers 1 – 8 on the inside sections.
- Write these sentences in the tucked under triangle of paper:
  - What was your biggest adventure?
  - What was the scariest thing that ever happened to you?
  - Did you care for a special pet?
  - Do you have any brothers and/or sisters?
  - Where were you born?
  - What was the first kind of car you drove?
  - What is the farthest place you have ever visited?
  - What was the one thing you wish you had known when you were my age?
  - What did you do for fun before you had a TV?

Take turns telling each other stories. Practice being a good listener.



# Roots & Shoots



## Junior Badge

Adapted from the Jane Goodall Institute's Roots & Shoots Program.

"Roots creep underground everywhere and make a firm foundation. Shoots seem very weak, but to reach the light they can break open brick walls. Imagine that the brick walls are all the problems we have inflicted on our planet. Hundreds and thousands of roots and shoots, hundreds and thousands of young people around the world, can break through these walls. You can change the world."

*Jane Goodall*

The Roots & Shoots mission is to foster respect and compassion for all living things, to promote understanding of all cultures and beliefs and to inspire each individual to take action to make the world a better place for the environment, animals and the human community. All Roots & Shoots members, from pre-K to university, demonstrate their care and concern for all living things through service projects in their community.

The Roots & Shoots program began in 1991 in Dar es Salaam, Tanzania, with a gathering of 12 students on Dr. Jane Goodall's back porch. The groups met with Dr. Jane to discuss a range of problems they knew about from first-hand experience that caused them deep concern. Their discussion covered topics such as pollution in the city, deforestation in the mountains, the welfare of domestic animals and the future of wild animals, including Dr. Jane's threatened chimpanzees.

These motivated young people wanted to learn more, they were willing to take action and they hoped that their peers would join with them to help make a difference, and Roots & Shoots was born.

The Roots & Shoots is based on the philosophy that:

- Every individual matters, whether human or animal.
- Every individual has a role to play.
- Every individual can make a difference.

Through the completion of a series of activities, Girl Scouts will become involved in projects to help save animals and the environment as well as each other, their communities and their world.

Membership in the Jane Goodall Institute is not required to participate in the Girl Scout Roots & Shoots program, but you may find many of the programs and resources helpful in planning and implementing your own community service activities. For more information, visit [www.janegoodall.org](http://www.janegoodall.org).

Complete a total of six activities including two Discover, two Connect, one Take Action and one other activity chosen from any category.

### Discover:

1. Learn about the work of the Jane Goodall Institute and its study of the habitat of chimpanzees, their behavior and the place in the environment.
2. Attend a county or 4-H fair, visit a nature center, a bird sanctuary, or a zoo. How are the specific needs of the animals being met? How much space do they have? Are they kept clean? Is their natural habitat duplicated as closely as possible? What are some of the problems or illnesses watched for by caretakers?
3. Learn how rain forests differ from forests in this area? Where are the rain forests of the world located? How large are they? Why do we need forests? What are some of the animals and plants that are found in the rain forests? How does the destruction of rain forests in South America affect other parts of the world?

4. Find out about five zoos or wildlife sanctuaries in different countries. What types animals are housed there and why? How do these zoos compare to zoos in the USA. Explore the role zoos play in protecting endangered species.
5. By banding birds we are able to count them and learn about their migratory habits. Visit a bird banding site in your area and see how many birds are spotted during the year. What types of birds are banded there? Find ways to help birds through the cold winter or dry summer. Learn where birds might go when they migrate. Identify one bird that comes from further north to spend the winter in our area--what would happen if its winter home were destroyed?
6. How does the weather/climate affect animals? How do they adapt? List some environmental disasters. How can animals survive such disasters?

### **Connect:**

1. Plant trees with your troop. Water the trees and monitor their growth for one year. How many animals make their home there during the first year? Learn what happens when large areas of trees are cut down. What areas of the community/world are in need of reforestation?
2. Research observation techniques and animal behavior before going on a guided nature walk. Use what you have learned to observe animals in their natural habitats.
3. Identify several women working on environmental careers and ask them to visit your troop meeting.
4. Visit the Roots & Shoots website ([www.rootsandshoots.org](http://www.rootsandshoots.org)). Look at the Roots & Shoots bulletin board to find out what groups are doing around the world. Find out how many Roots & Shoots groups are worldwide. In how many countries? In how many U.S. states? Write to one of these groups to ask them for information about their projects.
5. Design the perfect place to live. Does it have trees? Why would you want trees around this place? List all the reasons trees are beneficial to us and the environment. Find out what builders, landscape architects and biologist consider when planning a new site.

### **Take Action:**

1. Have a wildlife art competition in your troop, service unit or school. Invite younger girls to participate and community members to visit.
2. At an encampment or outdoor activity work with younger girls to increase their environmental awareness. Create a wide game focusing on environmental issues, or lead nature hikes, pointing out erosion and how it affects animal habitat. Explain to younger girls how it could be corrected.
3. Participate in a neighborhood clean up and then observe the area for one month. What kind of litter returns first? Who drops it? Is it more likely to appear after weekends than during the week? Why do you suppose people litter? Suggest three ways to try and convince people not to litter and make posters for your school or community center.
4. Visit a senior center and work on the "Draw our Roots & Shoots" project.



## **Draw our Roots & Shoots**

### **Introductions:**

Meet the seniors. Introduce the Roots & Shoots group.

Explain the purpose of Roots & Shoots.

**Materials:** Large Pieces of paper; Colored pencils.

The purpose of this activity is for the older and younger group members to get to know each other.

1. Pick any kind of tree to represent you and your life. Be sure to add roots, branches and shoots, trunk and the ground.
2. Roots provide support for the tree. Be sure to draw them even though they are under the ground. Then write down the names of people who give you support.
3. Shoots or branches grow away from the tree trunk. Write down what your dreams are.
4. The trunk represents you.
5. Pair up with a senior and share your tree drawings.

**Sharing Time:** ask the senior citizens to share a memory about a favorite tree. For example, some families plant a tree when a child is born or others might remember a favorite flowering or climbing tree.

*Reading list: The Eagle and the Wren, by Dr. Jane Goodall*

# Roots & Shoots

## Cadette/Senior/Ambassador Badge



Adapted from the Jane Goodall Institute's Roots & Shoots Program.

"Roots creep underground everywhere and make a firm foundation. Shoots seem very weak, but to reach the light they can break open brick walls. Imagine that the brick walls are all the problems we have inflicted on our planet. Hundreds and thousands of roots and shoots, hundreds and thousands of young people around the world, can break through these walls. You can change the world."

*Jane Goodall*

The Roots & Shoots mission is to foster respect and compassion for all living things, to promote understanding of all cultures and beliefs and to inspire each individual to take action to make the world a better place for the environment, animals and the human community. All Roots & Shoots members, from pre-K to university, demonstrate their care and concern for all living things through service projects in their community.

The Roots & Shoots program began in 1991 in Dar es Salaam, Tanzania, with a gathering of 12 students on Dr. Jane Goodall's back porch. The groups met with Dr. Jane to discuss a range of problems they knew about from first-hand experience that caused them deep concern. Their discussion covered topics such as pollution in the city, deforestation in the mountains, the welfare of domestic animals and the future of wild animals, including Dr. Jane's threatened chimpanzees.

These motivated young people wanted to learn more, they were willing to take action and they hoped that their peers would join with them to help make a difference, and Roots & Shoots was born.

The Roots & Shoots is based on the philosophy that:

- Every individual matters, whether human or animal.
- Every individual has a role to play.
- Every individual can make a difference.

Through the completion of a series of activities, Girl Scouts will become involved in projects to help save animals and the environment as well as each other, their communities and their world.

Membership in the Jane Goodall Institute is not required to participate in the Girl Scout Roots & Shoots program, but you may find many of the programs and resources helpful in planning and implementing your own community service activities. For more information, visit [www.janegoodall.org](http://www.janegoodall.org).

Complete a total of seven activities including two Discover, two Connect, one Take Action and two other activities chosen from any category.

### Discover:

1. Learn about an endangered plant or animal. Research the history of how it became endangered. How could this have been prevented? Is there anything that can be done to prevent extinction?
2. What are some of the tools researchers use to learn about factors that impact the environment? How have these tools effected or changed the way we live on earth? Research at least one of the following and what tools are being used to measure or collect information
  - Air and water pollutants
  - Weather
  - Contaminants in the soil
  - Activities on the sun

3. Research the life of Jane Goodall. What education and training did she receive for the work she is doing today? What skills did she develop and what techniques did she use during her career? Did she have a mentor or teacher?
4. Learn about birds that migrate through your community. Are they likely to have a safe, healthy journey? Where did they start and what is their destination? What happens to them if their winter or summer habitat is destroyed or if sites along their migratory route are destroyed.
5. Find out how land development has affected plants and animals in your local area. What can be done to help improve situations caused by development?

### Connect:

1. Research five global concerns for the environment, such as destruction of rainforests, water contamination or ozone depletion. Interview people in your community if they are aware of how these problems will affect the quality of life on this planet now and in the future. Contact three organizations to learn how they are addressing global environmental issues.
2. Write to the Roots & Shoots Club in Africa (Jane Goodall Institute, P.O. Box 727, Dar-es-Salaam, Tanzania, Attn: Jane Walsh). Find out what its members are doing about preserving or rebuilding the habitat for endangered animals. Find out what the members of Roots & Shoots Clubs are doing to spread information about endangered species.
3. Identify two different women working in environmental careers and ask them to visit your troop meeting or arrange to talk to them about their career. What kind of education is necessary? What kind of specialists are needed in other countries?
4. Design the perfect place to live. Does it have trees? Why would you want trees around this place? List all the reasons trees are beneficial to us and the environment. Find out what builders, landscape architects and biologist consider when planning a new site. Find out how new homes are advertised. How is landscaping important in the picture? Show the difference between planning and not planning of trees and other plants in building a home. What are some of the pitfalls that can be avoided?
5. Visit the web site for Chimpanzoo ([www.wcsu.ctstateu.edu/cyberchimp/chimpanzoo.htm/](http://www.wcsu.ctstateu.edu/cyberchimp/chimpanzoo.htm/)). Find out what the program is about and how many chimps and zoos are participating. Write or e-mail to find out the status of the research. Find out if there is a zoo near you that is participating in the chimpanzoo project.

### Take Action:

1. Organize an environmental day for troops in your service unit. Demonstrate positive care of the environment in a wide game. For example:
  - Show how an oil spill or the introduction of non-bio-degradable materials in the woods, lake and streams affect plants and animals.
  - Demonstrate ways to tell if packaging is made of recycled materials and can be recycled.
  - Sort litter into recyclable or non-recyclable or let girls compare litter to demonstrate ways to help the problem.
2. Design posters, flyers or exhibits for libraries and/or schools to share information about what is being done and what needs to be done to keep an endangered species from becoming extinct.
3. Erect bird houses or bird feeding stations at a local park, school or Girl Scout camp. Organize a group to help stock the feeders with food all year and protect the site from noises and animals that would keep the birds from using the feeding station or bird house. The biggest predator of birds in suburban areas is domestic cats. Help raise awareness of this if it is a problem in your area.
4. Share environmental awareness with younger children. Develop a play or activity that describes some of the environmental problems our world faces today. Teach them environmental songs and games.
5. Organize an environmental day for the troops in your school or service unit. Demonstrate positive care of the environment. For example, set up stations to show how plants and animals are affected by an oil spill and non-bio-degradable materials in the woods, lakes and streams; how to tell if packaging is of recycled materials or can be recycled or let girls compare litter to demonstrate ways to solve the problem.

