

# Pennsylvania Horticultural Society (PHS) Girl Scout Patch



Planting seeds, growing lives  
**GROW, EXPLORE, LEAD**

# Pennsylvania Horticultural Society (PHS) Girl Scout Patch

## Planting seeds, growing lives: GROW, EXPLORE, LEAD





In working toward the PHS Patch, girls will gain knowledge and skills to promote greening and its power to improve lives, build relationships, and transform communities.



### **General Girl Scout Requirements:**

Each age level requires completion of a different number of activities from this workbook. After your troop has completed the requirements, please contact Linda Delenick, program director, at [ldelenick@gsep.org](mailto:ldelenick@gsep.org), and indicate which projects were carried out and how many girls participated. You will receive a voucher to purchase the patches at the Council shop of your choice.

Please complete the appropriate number of activities for your age level.





-  Daisies and older – 3 activities, one from each category: Grow, Explore and Lead
-  Brownies and older – 6 activities, two from each category: Grow, Explore and Lead
-  Juniors and older – 9 activities, three from each category: Grow, Explore and Lead
-  Cadettes/Seniors/Ambassadors – 12 activities, four from each category: Grow, Explore and Lead

If any websites listed under Other Resources are no longer working, please notify Cheryl Baker at [cbaker@gsep.org](mailto:cbaker@gsep.org)







## Planting Seeds, Growing Lives: GROW, EXPLORE, LEAD Activities

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## Activity 1: Wildflower seed balls

A seed ball consists of a special mud mixture made with wildflower seeds. It can be placed in areas where the troop would like to start a greening project. In time, the mud mixture will eventually break down and, when the conditions are right, the seeds inside the ball will start growing in their new location.

For this activity you will need to collect the following materials:

- Wildflower seeds
- Powdered Clay (red or brown)
- Compost
- Trowel
- Water
- Gloves
- Newspaper
- Tub or Wheelbarrow
- Shovel or Stick

Other Resources:

<http://www.guardian.co.uk/environment/video/2008/apr/25/seedbombing>

[http://en.wikipedia.org/wiki/Seed\\_ball](http://en.wikipedia.org/wiki/Seed_ball)

The Guerilla Art Kit by Keri Smith. ISBN: 1568986882

1. Collect the seeds. You can find all kinds of seeds on the ground under trees and flowers that are done blooming (be sure to choose non-invasive species). You can save seeds from the fruits and vegetables you eat at home, too. Maybe you can find seed packets that were not used or purchase them on sale in late summer.
2. In a big tub or wheelbarrow, mix in 2 parts mixed seeds with 3 parts compost. Stir with stick or garden tool.
3. Now add 5 parts clay, stir again.
4. Add water until you are able to squeeze the mixture (with your hands) into small balls that keep their shape. Make 1-inch diameter seed balls. (Those gloves might come in handy now.)
5. Set the seed balls onto sheets of newspaper until they are dry, usually about 24 to 48 hours.
6. That's it! The balls do not need to be buried or watered, or even dispersed anytime soon. Whenever they find a spot of dirt and the climatic conditions are right, they will self-germinate.
7. As a troop, decide how and where to launch your seed balls. You can walk your neighborhoods and toss them onto patches of soil in abandoned lots that could use some greening. Maybe you want to sell them at a craft fair? Or give as gifts to family and friends.
8. Write a poem or song about making your wildflower seed balls.

## Activity 1: Wildflower seed balls

### For juniors and older:

9. Make a map of the locations where the seed balls were distributed and revisit them to monitor their progress. Note which seeds germinated and flourished. Since the seed balls will need to make it on their own (without ongoing care), using native seeds will prove more successful.
10. Research Masanobu Fukuoka and “natural farming”. Write a one-page paper about this concept and distribute with ready-to-launch seeds balls.



## Activity 2: Gardening based on a historical, cultural, or geographic connection

Have the troop plan a flower or vegetable garden that relates to something significant about your community (be it historical, cultural, or otherwise). Ask your city officials if there is any public space that would be fitting for your troop's garden.

Other Resources:

<http://www.kidsgardening.com/themes/culture1.asp>

<http://www.garden.org/articles/articles.php?q=show&id=3146>

<http://www.thekidsgarden.co.uk/>

<http://tinyurl.com/16vsef>

1. Ask the troop to determine what common thread exists within the community. Discuss their ideas and how they might be translated into a garden. Perhaps they could grow vegetables that are common to an immigrant group's homeland? Flowers that originated from a sister city? Plants native to the area? There are endless options, so be creative!
2. The Girl Scouts can be divided into groups. Assign each a different method of obtaining information about the significant area or cultural history. One group could conduct interviews of long-time residents, another could search the internet for information. Encourage them to visit the city archives or library to find photos of the community in earlier times.
3. Discuss the gathered information and choose the type of garden deemed appropriate. You may decide to name your garden. Draw some rough plans for how the troop thinks the garden should be organized.
4. Next determine the location for the garden in terms of type and size. You might want to ask for donations of lumber or rock for edging your garden, as well as plant material. Will there be a water source available for watering your garden? Also, find out which parents are willing to help on the designated date for the garden installation.
5. Visit garden centers and take your garden plans with you. Someone may be able to suggest plants that fit in with your theme and are available.

## Activity 2: Gardening based on a historical, cultural, or geographic connection

7. Prior to installation day, publicize the date and ask for volunteers to come and help your troop. Ask everyone to bring tools, gloves, and refreshments. You may want to make a sign beforehand to hang at your garden, too.
8. Document each step from planning to implementation. Have the girls write a report about their experience (with pictures) and share this with other Girl Scouts and youth organizations.



## Activity 3: Pizza garden

Have the troop plant seeds to grow herbs and vegetables that will later be used as pizza toppings. You can have them plant the seeds in an outdoor garden bed or in small pots placed in a sunny windowsill indoors. Make sure the girls are working with healthy soil and spaces that allow for drainage.

For this activity you will need to collect the following materials:

- Soil
- Seeds
- Popsicle Sticks
- Watering Can
- Ceramic or Plastic Flower Pots w/ Saucers

Other Resources:

<http://www.reneegarden.com/articles/pizza.html>

<http://containergardening.about.com/od/vegetablesandherbs/ss/PizzaGarden.htm>

[http://vegetablegardens.suite101.com/article.cfm/grow\\_a\\_pizza\\_garden](http://vegetablegardens.suite101.com/article.cfm/grow_a_pizza_garden)

1. Decide which herbs and vegetables your troop would like to grow. Don't forget to consider the space you have to grow in. You might like basil, green peppers, chives, hot peppers, oregano, thyme, and tomatoes.
2. Sow your seeds according to the packet instructions and water as often as needed.
3. Use the popsicle sticks to write down the names of the seeds you have planted and stick them in the soil near each row or pot of seeds so you will know where each variety of plant is.

Assign all troop members certain days to check on the herbs and vegetable plants and water them when they are dry. Also be sure they pull weeds if they appear in your garden and pots.

After several weeks of careful tending to the garden, you may find the plants are ready to be harvested. Find a recipe for a good homemade pizza and plan the place, date, and time to prepare, cook, and enjoy your troop's garden pizza! (You might decide to use a pre-made plain cheese pizza and add the home-grown toppings.)

## Activity 4: Vermiculture, what's that?

Vermiculture is the controlled growing of worms in specialty structures. Similarly, vermicomposting uses red wiggler worms (*E. foetida*) to decompose plant wastes into castings. In short, explain to the troop that they're to become worm farmers! Maintaining a worm farm does not require a lot of time, it does not smell, and it will make your gardens thrive. (Just remember to keep the wriggly worms in a place that will not be too cold in the winter.)

There are many websites, videos, and books that will teach you how to make and maintain your own worm farm for composting. The earth911.com website includes instructions and troubleshooting information.

<http://earth911.com/blog/2007/04/02/composting-with-worms/>

Only a few things are needed to make good worm compost. Materials include a bin, bedding, worms, and worm food (kitchen scraps).

Other Resources:

<http://earth911.com/blog/2007/04/02/composting-with-worms/>

<http://www.deq.state.la.us/portal/tabid/2101/Default.aspx>

<http://www.worndigest.org/>

<http://urbanext.illinois.edu/worms/facts/index.html>

- Before starting this project, have the Girl Scouts ask friends and neighbors if they have a worm farm, where it is kept, and their experience with vermiculture.
- Ask the Girl Scouts to do some research on earthworms to discover the role of earthworms in nature and how non-native earthworms affect our environment.
- Now create a display board with the Girls Scouts' research findings; include information on how they plan to build their worm farm and what materials will be used.
- Decide where the bin will be placed and how the bedding, food supply, and castings will be monitored. There may be certain weeks that each Girl Scout takes the bin and is responsible for its upkeep.
- Once all supplies are obtained, plan a day for the worms to arrive and to assemble your worm farm. Take photos or video of the project. Now you can add these photos to your display board.
- Find a state fair or nature event where the Girl Scouts can take their worm farm and display board so that they can explain and educate others about vermiculture.
- You may find that you could sell the worm castings as a fundraising project for your troop.

## Activity 5: Take a hike

For this activity the troop will take a hike and observe the sights and sounds of nature. Each Girl Scout should bring a journal and a camera for taking notes and pictures. Scout out a nice hiking trail that offers plenty of wildlife, trees, creeks, and hills. Spend the better part of a day experiencing nature.

Other Resources:

<http://www.trails.com/activity.aspx?area=10867>

<http://www.dcnr.state.pa.us/stateparks/recreation/hiking.aspx>

[http://www.slackpacker.com/map\\_pa.html](http://www.slackpacker.com/map_pa.html)

1. Capture pictures of plants, fungi, animals, waterfalls, shadows—anything that is beautiful and inspiring. Don't forget to take some group pictures, too.
2. Sketch and write in your journal. You may feel moved to write a poem or song.
3. Spend some time sitting quietly by yourself and see what you observe. You will probably notice things you would have missed just walking by. Select a patch of ground the size of your hand. Observe it for a few minutes. Have you seen anything move? What is growing here?
4. Find something near you that is red, brown, green, and yellow.
5. Make a list of all the different bird calls you hear, all the types of animals you see, and gather a few leaves and ferns that you can press in between the pages of your journal.
6. You could bring along a waste-free lunch (included in The footprint project on page 19, or follow this link <http://www.globalstewards.org/lunch.htm>).
7. At the end of the day, write in your journal how you felt before, during, and after your nature hike. Did getting out into nature change your mood, attitude, or stress level?

At a later Girl Scout meeting, ask the girls to read excerpts from their “Take a Hike” journals, share poems or inspirational moments, and show off their pressed flowers.

## Activity 6: Trees, shrubs, and flowers... oh my!

In this activity, have the troop survey their neighborhood for the variety of plant life that lives among us.

Other Resources:

<http://www.plantnative.org/>

<http://www.arborday.org/trees/whattree/easterntrees.cfm>

[http://forestry.about.com/cs/treedid/a/100\\_trees\\_id.htm](http://forestry.about.com/cs/treedid/a/100_trees_id.htm)

<http://www.arborday.org/trees/whattree/WhatTree.cfm?ItemID=E6A>

[http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/trees-new/common\\_namesa\\_c.html](http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/trees-new/common_namesa_c.html)

<http://www.goldmedalplants.org/>

1. Look at the trees and flowers in your neighborhood. Do some have characteristics that you like? Ask family members and neighbors to help you identify the plants and start a list of favorites.
2. Gather some leaves or flowers and press them between the pages of a large book.
3. Once the leaves are dry, place them into a notebook or scrapbook with glue and label each plant in your collection.
4. Make notes on why you chose them as favorites and where you collected the leaves.

### For juniors and older:

5. Find out which plants on your list are native to your area and which are non-native plants.
6. Conduct research to determine the benefits of native plants and why non-natives can be troublesome.
7. Talk to some plant nurserymen (and women!) in your community and ask their opinions about your favorite trees, shrubs, and flowers. Ask them why they think 'greening' with the right plants is important.
8. Create a flyer (based on your research) that contains a list of the best performing native plants suggested for greening and beautification in your area. Include plants that should be avoided. Ask your local nursery and garden centers if they will distribute your flyer to their customers or post it in their store.

## Activity 7: Bark rubbing journal

A bark rubbing is made by holding or (gently) taping a sheet of paper over a section of tree bark and rubbing the paper with a crayon, charcoal pencil, or chalk. The result shows a rough pattern that is created by the texture of the tree bark. This activity is meant to show the troop the diversity of trees in their immediate neighborhood. If you conduct your rubbings at a park, arboretum, or private property, be sure to get permission beforehand.

For this activity you will need to collect the following materials:

- Paper
- Crayons
- Stapler
- Tape
- Charcoal Pencil or Chalk

Other Resources:

[http://www.lookoutscout.co.uk/index.php?action=cms.bark\\_rubbing](http://www.lookoutscout.co.uk/index.php?action=cms.bark_rubbing)

[http://www.ehow.com/how\\_2159079\\_bark-rubbing.html](http://www.ehow.com/how_2159079_bark-rubbing.html)

<http://www.sageoxford.org.uk/barkrubbing.htm>

<http://www.treeblog.co.uk/viewpost.php?id=213>

1. Use a variety of colors and a different sheet of paper for each tree.
2. Label each bark rubbing with the type of tree.
3. Make a cover for your journal of bark rubbings, put your names, troop number, and date on the cover.
4. Gather all the pages and the cover of your journal and staple them together along the left edge.

### For juniors and older:

5. In your journal, include other notes and facts about the trees from which you took rubbings. Include the place where you conducted the bark rubbings, the Latin name of the tree, and the overall height and width for the species. Sketch the overall shape of the tree; you might collect and draw the seeds and fruit it bears.

Make additional bark rubbings and create greeting cards with them.

## Activity 8: Tree identification

This activity shows the characteristics that are useful in identifying trees. Have the girls complete the worksheet at right.

.....

Other Resources:

- <http://www.arboday.org/trees/whattree/easterntrees.cfm>
- [http://forestry.about.com/cs/treecid/a/100\\_trees\\_id.htm](http://forestry.about.com/cs/treecid/a/100_trees_id.htm)
- <http://www.arboday.org/trees/whattree/glossary.cfm>
- <http://www.arboday.org/trees/whattree/WhatTree.cfm?ItemID=E6A>
- [http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/trees-new/common\\_namesa\\_c.html](http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/trees-new/common_namesa_c.html)

There are many things to look for when identifying trees, including seeds, buds, fruits, and leaves. First, define these tree-related terms to help you know exactly what you're looking for.

Petiole: \_\_\_\_\_

.....

Margin: \_\_\_\_\_

.....

Conifer: \_\_\_\_\_

.....

Deciduous: \_\_\_\_\_

.....

Evergreen: \_\_\_\_\_

.....

Lobes: \_\_\_\_\_

.....

Alternate leaves: \_\_\_\_\_

.....

Compound leaves: \_\_\_\_\_

.....

Opposite leaves: \_\_\_\_\_



## Activity 8: Tree identification

This activity shows the characteristics that are useful in identifying trees. Have the girls complete the worksheet at right.

Start your own tree identification book. Using a small spiral-bound book, sketch the leaf shapes of these eight or 16 trees. Put one type of tree per page and label each one.

(You can substitute trees on this list with trees you find near you.)

- Red Oak
- Beech
- Tulip Poplar
- Cottonwood
- Mulberry
- River Birch
- Dogwood
- Red Maple

### For juniors and older:

- Aspen
- Sycamore
- Osage Orange
- Black Locust
- Buckeye
- Black Walnut
- Boxelder
- Willow

## Activity 9: Why trees are important

Trees provide many benefits. This activity will help the troop understand the many ways trees are so valuable. Have the troop fill out the form at right to learn more and have them discuss their answers.

Other Resources:

<http://www.arborday.org/kids/kidsdif.cfm>

<http://www.arborday.org/trees/benefits.cfm>

[http://treesaregood.com/treecare/tree\\_benefits.aspx](http://treesaregood.com/treecare/tree_benefits.aspx)

[http://www.treelink.org/docs/29\\_reasons.phtml](http://www.treelink.org/docs/29_reasons.phtml)

[http://www.umassgreeninfo.org/fact\\_sheets/plant\\_culture/stressedtrees.pdf](http://www.umassgreeninfo.org/fact_sheets/plant_culture/stressedtrees.pdf)

<http://easttexasgardening.tamu.edu/Homegardens/treestress.html>

1. Do you prefer sitting under a leafy shade tree in the summer or would you rather spend time on a concrete parking lot? Explain your answer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. If you learned that trees were able to purify the air we breathe by absorbing pollutants, taking in carbon dioxide, and releasing oxygen, would you like to see more trees planted along streets and highways where you live? Explain why: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. If your family had to move to a new house, would you rather your new home had several trees on the property or no trees at all? Explain your decision: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Activity 9: Why trees are important

Trees provide many benefits. This activity will help the troop understand the many ways trees are so valuable. Have the troop fill out the form at right to learn more and have them discuss their answers.

- 4. Which do you think has the capability to absorb more water from a rainstorm into the ground and prevent flooding: paved areas or areas with trees and mulch? Why? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 5. Make a list of animals that rely on trees for shelter and food:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 6. List three ways you can help trees: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

As individuals or in groups, have the girls write and perform a skit. Ask them to “imagine a young girl who has arrived in a mysterious place where there are no trees.” How would she react? What does she miss about trees? Have them perform for one another.

## Activity 10: Save the bees

In this activity the troop will learn the vital role bees play in sustaining agriculture and all plant life.

You may have heard about CCD, Colony Collapse Disorder, in the news recently. The unexplainable disappearance of bees around the world is quite serious and could affect the food supply. If there aren't enough bees to pollinate plants that require pollination in order to produce fruit, what would we find at farmers' markets and grocery stores? Some farmers have had to pollinate their crops by hand, using a paint brush!

Other Resources:

[http://en.wikipedia.org/wiki/Colony\\_collapse\\_disorder](http://en.wikipedia.org/wiki/Colony_collapse_disorder)

<http://www.pollinator.org/>

<http://www.helpthehoneybees.com>

<http://www.honeybeequiet.com/>

<http://www.epa.gov/opp00001/about/intheworks/honeybee.htm>

<http://cba.stonehavenlife.com/2009/01/solitary-bee-house/>

<http://tallcloverfarm.com/?p=224>

<http://helpsavebees.posterous.com/tag/beehouse>

<http://www.agpollinators.org/#>

<http://www.nwf.org/nationalwildlife/article.cfm?issueID=129&articleID=1735>

There are many varieties of bees and other insects that pollinate flowers naturally.

1. Do some research on bees and create a display board with the information you've learned about them. Answer these questions:
  - a. How do we benefit from bees?
  - b. What are "native pollinators"?
  - c. Make a list of native pollinators.
  - d. What are some characteristics of plants that attract bees?
  - e. What plants (native to your area) would attract native pollinators?
  - f. How do pollinators play a part in agriculture?
  - g. What else can you do to be "pollinator friendly"?
2. Next, make a house for bees or other native pollinators (hummingbirds, bats, etc.). There are several types you can build and directions can be found online. Links are provided at left under "Other Resources."
3. Take pictures of the construction and hanging of the houses you made and add them to your display board.
4. Think of ways you can share this important information about CCD and encourage others to help pollinators thrive.

## Activity 11: Support a community service project

Involving youth in community service is such an important lesson. Volunteering builds character in the individual, benefits the community, and teaches the value of fostering relationships.

### Some green service projects you might find:

Trash pick-up in public places

Trail maintenance at parks

Painting benches and trash cans at bus stops or train stations

Planting flowers, weeding, or mulching flower beds at senior citizen centers

Adding birdhouses, bee houses, toad houses, and butterfly houses in parks

Other Resources:

<http://www.actionfornature.org/>

<http://servenet.org/>

<http://www.volunteermatch.org/search/>

<http://parenting.kaboose.com/behavior/emotional-social-development/community-service-for-kids.html>

[http://www.servicelearning.org/instant\\_info/kids\\_teens/index.php#](http://www.servicelearning.org/instant_info/kids_teens/index.php#)

<http://www.dot.state.pa.us/Internet/Bureaus/pdHwyBeau.nsf/infoAdoptHighway?readform>

[http://www.projectwildlife.org/gardens\\_toadhouse.htm](http://www.projectwildlife.org/gardens_toadhouse.htm)

<http://www.diy-life.com/2008/04/11/avant-yard-toadily-easy-toad-houses/>

- Compile a list of the suggested organizations offering volunteer opportunities for your age group.
- Ask the troop members to look for community service projects that they would like to undertake. At a troop meeting each Girl Scout should present her idea for a project.
- Have the troop vote on at least three projects to donate their time to during the next year.
- Plan the dates and times for the community service projects and promote your troop's participation (by notifying the local newspapers, news stations, etc.)
- Take photos and/or videos of the Girl Scouts before, during, and after their community service project.
- Evaluate the impact the project had on the community. What things worked well and what needs improvement?
- Post the photos and descriptions of the work on the Girl Scout website or other youth websites or blogs, and don't forget to forward them to the newspapers, too.
- Celebrate your efforts and start planning the next community service project.

## Activity 12: Calendar of environmental events

Have the troop create a calendar of events that celebrate the environment. Lead them in research to find activities over the next year that your community could take part in observing. Ask permission to post their monthly calendars in public places (libraries, schools, shopping centers, etc.) so the community will become more aware of environmental issues that are important to your troop.

Other Resources:

<http://www.gpen.org/events.cfm>

[http://www.girlscouts.org/program/program\\_opportunities/environment/environmental\\_events.asp](http://www.girlscouts.org/program/program_opportunities/environment/environmental_events.asp)

<http://www.globalstewards.org/calendar.htm>

<http://www.environmental-expert.com/events.aspx>

You may copy pages from a calendar or have the girls draw their own. Add events on the appropriate date (locations and time for local events) that relate to trees, Earth Day, global warming, endangered species, conservation, air and water pollution, recycling, and other issues to which they would like to bring attention.

Include information about your Girl Scout troop. Have the girls draw their own art on the calendars or add stickers.

Don't forget to have them replace the calendars each month at each location posted.



### Activity 13: The footprint project

Have the girls discover the size of their carbon footprint and see how their footprints compare with kids in other countries.

Other Resources:

<http://www.globalstewards.org/reduce.htm>

<http://www.globalstewards.org/reuse.htm>

<http://www.globalstewards.org/recycle.htm>

<http://www.timeforkids.com/TFK/kids/specials/articles/1,28285,1613313,00.html>

Did you know the choices you make every day about transportation, what you eat, what you use, and what you throw away all affect the environment and the size of your “carbon footprint” (the amount of pollution you create as an individual)?

1. Use this online calculator to measure the direct impact your lifestyle has on the planet.  
[http://www.zerofootprintkids.com/kids\\_home.aspx](http://www.zerofootprintkids.com/kids_home.aspx)
2. Are you surprised by the results? How does your score compare to other countries? (Select two other countries and compare the scores.) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Do you know how to pack a lunch that will reduce waste, rather than create more waste? Find out how by visiting this website.  
<http://www.globalstewards.org/lunch.htm>
4. Now create a nutritious lunch for school and explain how you will pack it. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Activity 13: “The Footprint Project”

Have the girls discover the size of their carbon footprint and see how their footprints compare with kids in other countries.

1. Can you name the three “Re” words and give examples of each:

RE \_\_\_\_\_

RE \_\_\_\_\_

RE \_\_\_\_\_

2. List at least five things you can do reduce your footprint.

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

e. \_\_\_\_\_



## Activity 14: Community is...

This activity demonstrates various ways for the troop to think of and define a community.

What do you think of when you hear the word “community”? First, you might think of your neighborhood or town as a community. Perhaps you might also describe other groups you belong to as a type of community, such as your community of Girl Scouts, church community, soccer community, volunteer community, global community, etc.

Other Resources:

<http://en.wikipedia.org/wiki/Community>

<http://polyland.calpoly.edu/OVERVIEW/Archives/derome/communities.html>

<http://www.4hwildlifestewards.org/creating%20your%20wildlife%20garden/native.htm>

1. What communities are you a member of? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What makes a community strong? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What are the characteristics of an ideal community member?  
\_\_\_\_\_  
\_\_\_\_\_
4. What roles do you play in the communities you are involved in?  
\_\_\_\_\_  
\_\_\_\_\_
5. What do you think would be included in a “Plant Community”?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Make a poster. Draw a diagram with you in the center surrounded by the communities in which you are a part.

## Activity 15: Tree canopy and street tree inventory

This activity will provide an estimate of an area's tree canopy. A tree inventory is a count taken of trees in a defined area and lists the types of trees, their age, and condition. Some inventories will include a GPS position of each tree, too.

Other Resources:

<http://tinyurl.com/nyv8yj>

<http://www.milliontreesla.org/mtabout3.htm>

<http://www.umass.edu/urbantree/factsheets/3treeinventory.html>

<http://www.pittsburghforest.org/TreeInventory>

1. What is tree canopy? Imagine that you are flying over the county where you live and looking down on the countryside. You see lots of things, but the tree branches and leaves you see (that block your view of the ground) make up the tree canopy.
2. Increasing the tree canopy can provide which of the following benefits?

(check all that apply)

- beautifies the community
- cleans the air and water
- decreases patients' hospital stay
- increases property values
- helps kids with ADHD pay attention
- increases girls' self-esteem
- makes PA a better place to live
- produces more leaves to rake
- provides shade to lower summer temperatures
- provides wildlife habitat

## Activity 15: Tree canopy and street tree inventory

This activity will provide an estimate of an area's tree canopy. A tree inventory is a count taken of trees in a defined area and lists the types of trees, their age, and condition. Some inventories will include a GPS position of each tree, too.

Now have the troop conduct a street tree inventory.

3. Select an area to conduct the street tree inventory. This may be one or more city blocks in the town where they live (or nearby). Take pictures while conducting this inventory.
4. Count the number of street trees within your defined area. Use the form on the next page for the inventory (or you may create your own form). Each girl should fill in and sign a form to complete this activity.
5. Report any dangerous tree limbs or weak trees to your city or county officials.
6. Combine and analyze their findings. You may send copies of your inventory to your city manager's office or other interested departments and organizations.
7. Reflect on what was seen and inventoried and review the photos as a group.

Is there a mix of young and old trees? \_\_\_\_\_

Can you tell which inventoried tree was the oldest?  
\_\_\_\_\_

What will these areas look like in 20 years? 50 years? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Are there sites where the Girl Scouts could plant additional trees?  
\_\_\_\_\_  
\_\_\_\_\_

# STREET TREE INVENTORY

County

State

Zip

| Address | # Trees | Species | DBH | Height | Utilities | Condition | Sidewalk & Other Comments |
|---------|---------|---------|-----|--------|-----------|-----------|---------------------------|
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |
|         |         |         |     |        |           |           |                           |

**Address:** the address where street trees are located. If on an empty lot, use best guess.

**Tree #:** list number of street trees at each address. Count only street trees, which are within 10 feet of the street.

**Species:** identify type of tree, if stump or unrecognizable dead tree, write "Stump" or "Dead."

**DBH:** diameter at breast height. Use calipers or cloth tape measure to wrap around trunk

**Height:** estimate the height of the tree.

**Utilities:** overhead wires, yes or no.

**Condition:** enter G, P, D or C  
 G = Good, less than 25% dead wood  
 P = Poor, contains 25-50% dead wood  
 D = Dead or close, over 50% dead wood  
 C = Critical, imminent danger to public

**Sidewalk Raised:** if sidewalk is raised above grade by 1" or more in a pedestrian walkway, write in the measurement.

**Comments:** note any additional remarks about site or street trees.

Street Tree Inventory conducted by Girl Scout Troup #

Date

Time Started

Time Finished

List of Girl Scouts who participated:

## Activity 16: New home with curb appeal

Provide a new structure that will be inhabited by birds, butterflies, or bats. Either build from scratch or purchase appropriate housing for mounting outdoors. (Consider using recycled materials, such as: milk/juice cartons, dried gourds, etc.) The troop should decide if they'd like to provide housing for birds, butterflies, or bats. Each of these animals prefers a different type of house in which to live.

Other Resources:

<http://www.globalstewards.org/garden-ecotips.htm>

<http://thebutterflysite.com/gardening.shtml>

<http://www.birdhouses101.com/>

<http://www.shawcreekbirdsupply.com/birdhouses.htm>

<http://www.batconservation.org/content/Bathouseimportance.html>

[http://www.eparks.org/wildlife\\_protection/wildlife\\_facts/bats/bat\\_house.asp](http://www.eparks.org/wildlife_protection/wildlife_facts/bats/bat_house.asp)

<http://www.nwf.org/gardenforwildlife/bathouse.cfm>

1. Do some research to find out what materials are needed for your selected animal's house. Also determine what the shape of the house should be for that animal and make sure the type of entry and the opening are the correct size. Also decide where and how your troop will hang or mount the new homes. Also think about the natural environment or habitat (water, food, and safety) each animal prefers. Make sure you know how high to hang each house, too.
2. Decide the best method to obtain materials or unfinished wood products. You might consider using gourds – which you could grow as part of a troop garden project.
3. Write a report from your research and keep a chart that lists the houses, the materials needed, and the type of animal that would live in it and other information you would like to track (such as expenses). You could also include a column in your chart indicating where each house is to be placed when complete.
4. Now you should be ready to plan a day for building and decorating the new homes. You may need to schedule another day for the installation and ask some parents to assist. See who can bring ladders, hammers, nails, etc. Consider adding some of your new houses in public spaces, parks, roadsides, etc.
5. Your troop may also want to add plants around the newly installed homes that will attract the type of birds and butterflies that will live there.

# Pennsylvania Horticultural Society (PHS) Girl Scout Patch

## Planting seeds, growing lives: GROW, EXPLORE, LEAD

In working toward the PHS Patch, girls will gain knowledge and skills to promote greening and its power to improve lives, build relationships, and transform communities.

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[www.pennsylvaniahorticulturalsociety.org](http://www.pennsylvaniahorticulturalsociety.org)

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