



## Junior Geocacher Badge Activity Plan 1

**Badge Purpose:** When girls have earned this badge, they will know how to have a geocaching adventure.

**Planning Guides Link:** Outdoor Awareness and Environmental Stewardship

**Fun Patch Link:** Geocaching

**Activity Plan Length:** 1.5 hours

**Involve Family and Friends:** Participation from family and friends can enrich your troop's Girl Scout experience, both for the girls and for you. Use the suggestions below to make it easier for you to connect with additional support.

- Before the meeting:
  - Send a note to families to find those with interest in or expertise with the topic. Ask them to lead or support an activity or two, or even lead the whole meeting.
    - Offer this activity plan as a starting place and point out that they may choose alternative activities using the *Customize It!* section as a guide. For example: If an activity plan directs girls to sit outside and observe animal habitats, you may choose to go to the zoo and learn about animal habitats there instead.
- At home:
  - Encourage families to ask questions about their girls' badge activities. Some examples that work for any badge include: What did you learn? What surprised you? What does it make you think of trying next?
- Throughout the year:
  - Suggest to families ways that girls can share or display their Girl Scout accomplishments. Possibilities include a bulletin board, a scrapbook, a special memories box or family sharing time.

**Girls Take the Lead:** Include girl leadership through long-term planning, short-term meeting prep and specific activities at meetings.

- Long Term Planning
  - If you use "Plan Your Junior Year", share this with the girls at the start of the year. Have them ask friends and family to help out with specific meetings or activities. Let the girls brainstorm ways to make the plans their own, such as thinking of related field trip activities. If a girl has experience with a field trip, ask her to be assistant tour guide.
  - If you are adapting the "Plan Your Junior Year", get the girls' input on which badges to choose. Offer just a few choices in each category or timeframe to make decisions easier. Every girl should have at least one badge or journey she's excited about.
- Short Term Planning
  - Ask a family to help lead a badge. Make sure they have access to activity plans and any resources you might have. Keep additional requested materials to a minimum.
  - Choose two helpers to stay after a meeting for 15 minutes. Give them each an activity to introduce and either instruct or help guide at the next meeting.
  - Before a meeting, ask everyone to vote on some aspect of the activity: draw posters or perform skits, open with a song or game, etc.
  - Use a rotating list of helper tasks, called a 'kaper chart', to share responsibilities. Examples include acting as emcee of the meeting, leading an opening game, bringing a snack next meeting or taking attendance.
- At the Meeting

- During the opening, have 1-2 girls share their answers to a get-to-know-you question.
- Have girls fulfill their kaper chart responsibilities.
- Try to find something in each activity that you can let girls decide or manage.

**Customize It:** If your group wants to expand work on this badge or simply try different activities, go for it! There are many ways to earn this award, including: completing the activities as listed in the Junior Skill-Building Badge set for *It's Your Story—Tell It!*, completing two of these activity plans, attending a council-sponsored event or customizing activities. Pick the one(s) that work best for your group. Girls will know they have earned the award if:

- They have learned what is involved in a geocache adventure and are prepared for it
- They have learned to use a GPS receiver
- They have made a trade item—an item to leave at the geocache
- They have gone on a geocaching adventure

### **Tips and Tools**

- You will want a GPS receiver to do this badge. Many geocachers use a smartphone with a built-in GPS receiver. If you don't have a GPS receiver, and can't find or borrow one, contact River Valleys to see if GPS units are available for check-out. GPS receivers designed for geocaching will be the easiest to use, but even a car GPS should be acceptable, as long as it has battery power and you can find the status page that gives your current coordinates.
- You will also want access to a computer, ideally with a printer.
- As with any hike, let others know where you will be, hike with a buddy, and prepare for weather and site conditions. Check out ways to stay safe using Safety-Wise at <http://gsrv.gs/safetywise>.
- Ensure that your activities are accessible to everyone. Ask in advance if any special accommodations need to be made. If you have questions regarding specific adaptations, please contact River Valleys at 800-845-0787.

### **Resources**

- This lesson plan has been adapted from the Junior Skill-Building Badge set for the *It's Your Story—Tell It!* Geocacher Badge, which can be used for additional information and activities.

## Getting Started

Time Allotment: 15 minutes

Materials Needed:

- Optional: Girl Scout Promise and Law printed out on poster board

Steps:

1. Welcome everyone to the meeting.
2. Recite the Girl Scout Promise and Law. Use repeat-after-me or say it as a group if girls know it by heart.

Girl Scout Promise	Girl Scout Law
<i>On my honor, I will try:</i> To serve God and my country, To help people at all times, And to live by the Girl Scout Law.	<i>I will do my best to be</i> honest and fair, friendly and helpful, considerate and caring, courageous and strong, and responsible for what I say and do, <i>and to</i> respect myself and others, respect authority, use resources wisely, make the world a better place, and be a sister to every Girl Scout.

3. Play a game so girls get to know each other better. Use the example below, if needed.
  - Pile Up: Girls sit on chairs in a circle. Choose a leader who will have a list of “yes” or “no” questions, such as “Do you have on brown shoes?”, “Are you wearing a ring?”, “Is your favorite color purple?” As the questions are asked, those that can answer “yes” move one chair to the right. Those that answer “no” don’t move. Girls will end up “piled-up” on chairs.

## Activity #1: Geocache Word Challenge

Badge Connection: Step 1—Prepare for your adventure

Time Allotment: 15 minutes

Prep needed:

- Make copies of the word challenge header cards, terms and answer cards listed at the end of the activity plan. Cut out to separate cards. Keep a copy of the overall answers for yourself. Or have a small group of girls make one or more of these categories in advance, decorated however they’d like.
- If desired, use tape to put the term cards up on the wall in your meeting space, grouped under the appropriate heading cards. Otherwise, keep them in stacks on the table, still sorted by heading. Have a separate space to set out the answers.

Materials needed:

- Word challenge game cards

Steps:

1. Divide girls into small teams.
2. If you haven’t already, set out terms cards under their categories in one space and answer cards on a table somewhere else.
3. Explain the rules: each team will take turns picking a category of initials, stuff to bring, stuff to find, or people and stuff to know. One team member will draw a card from that stack (or from the wall).
4. If the group thinks they know what the answer is, they can answer it right away for two points. Feel free to coach them as much as needed.
5. If girls aren’t certain of their answer, they can go to the answer cards and find the answer they think matches.
6. If they have it right, they keep both the term and the answer cards and earn one point. If not, the next group can try to answer.
7. As the moderator, use the overall answer sheet with the longer answers to bring out the details or provide further explanations.

## Activity #2: Learning Coordinates

Badge Connection: Step 2—Learn to use a GPS receiver

Time Allotment: 30 Minutes

Prep Needed:

- Gather materials and supplies.

Materials Needed:

- GPS receiver(s)

Steps:

In order to be able to 'geocache,' girls will need to be able to find these hidden locations! For this, they will use a GPS unit. These units work with satellites in the sky to pinpoint specific locations on Earth using coordinates. Coordinates are measurements called longitude and latitude. Longitude is where something is on Earth east to west and latitude is measured based upon the distance between the North and South Pole. These two coordinates will eventually cross (just like on a graph) and that specific location will give you a number that can be located by your GPS.

1. There are two ways to use a GPS unit, depending upon whether girls are 'treasure hunting' or 'treasure hiding'. The difference will be in how they use the coordinates. If they are treasure hunting, they will already know the coordinates they're seeking and can plug those into the GPS unit. If they are treasure hiding, they will choose their location and use the GPS unit to record the exact coordinates of their position so someone else can go and find it. These can also be saved into the GPS unit and marked as a 'waypoint' (location).
2. Treasure Hunting: In order to find the treasure (geocache) girls will need to know the coordinates of the hidden object.
  - If these are not already saved in the GPS, you will need to manually put these in. Each GPS unit will be slightly different and you should follow the instructions provided with the GPS unit, but essentially you will perform the following steps:
    - Turn on your GPS
    - Allow time for it to acquire satellite coverage
    - Using the menu options, 'mark' the position that you are trying to find. Essentially, this is the same as entering an address into a car GPS except you are using numbers.
    - Select the option to navigate to the location or 'way point' and you will see a compass displaying on the screen pointing you in the right direction.
  - If the coordinates are already in your GPS, you can just jump straight to the navigate option and find your geocache.
3. Treasure Hiding: Hide a geocache and save the coordinates for someone else to find.
  - Select the location where girls want to hide their geocache. It should be somewhere that is slightly hidden, yet easily accessible and does not compromise the safety of anyone hiding it or finding it (for example, do not place something where it would require someone to climb up into a tree to place it or retrieve it).
  - On your GPS unit you will want to use the option to 'mark' the position you are currently in and save it as a waypoint. You can then navigate back to this with the GPS unit or record the coordinates so that someone else can find them.
  - It is sometimes helpful when you are hiding a geocache to use physical landmarks to help guide your treasure hunters. For example, you can provide the coordinates as well as a clue that the location is somewhere behind the sports field.
4. After reviewing the above GPS unit basics with the girls, ask them to find the GPS coordinates of three things near your meeting location. Items could be a neighborhood stop sign, a mark on the sidewalk or a girl's favorite tree.
5. Using the GPS units, girls should save the locations so that they (or someone else) can navigate to them again.
6. You can also have girls practice hiding and finding geocache boxes in small groups. This will give the girls some great practice at being both treasure hunters and treasure hidiers!
7. Treasure hidiers should hide their geocache, save the coordinates of the location and provide the treasure hunters with that information (and a clue, if desired).
8. Treasure hunters should use the GPS unit and saved coordinates to locate the hidden geocache.
9. Have groups switch roles.

## Alternative Activity #2: Finding Your Way with Coordinates and Maps

## Badge Connection: Step 2—Learn to use a GPS receiver

Time Allotment: 30 Minutes

Prep Needed:

- Use these activities if you do not have GPS receivers for this meeting, or if you won't have them for the next meeting.
- You will need time to set out the letter grid, and if you need to change it for your space, give yourself additional time
- For the map activity, start by going to [geocaching.com](http://geocaching.com) to find a nearby site for a field trip that has easy (difficulty between 1 and 2) geocaches. Record the coordinates to use at the meeting. Arrange to have a computer at the meeting, and then a printer either at the meeting or before the next meeting
- Write out or print the coordinate clues.

Materials Needed:

- Space for setting out your 10 x 10 grid (can happen on a large table if needed)
- 20 index cards, with the numbers 1-10 twice
- 21 cards with letters, as shown in table (or come up with your own puzzle)
- Masking or painters tape
- String or measuring tape
- Paper or cards with coordinate clues
- Pencils

### Part 1 – Grid (20 minutes)

Steps:

1. GPS coordinates by themselves can give very precise information, but not complete information; they tell you nothing about the kind of terrain you'll be traveling on, or even which way is north (though your receiver will have some way of finding that.) We are going to practice moving just according to coordinates, then look at some maps and see how they can work together.
2. A set of GPS coordinates will tell us how far north and how far west we are on the Earth at this moment. (We are using north and west because, in North America, our latitude number will all start with an N, and longitude numbers will start with a W.) If we have the coordinates for another spot, we can get there by following an imaginary grid, like using the knobs on an Etch-a-Sketch: one knob goes only vertically (north and south) and one goes only horizontally (east and west). It's often easiest to worry about just one number at a time, as long as you can walk in a straight line due north or west.
3. Show the girls the space where you have laid out the grid. Start in the corner between where the two number 1 cards are. Explain that they are going to use GPS-style coordinates to get around, only this is a very limited planet earth – instead of all the numbers they will see on a GPS unit, the numbers only go up to 10. Point to the numbers along the axis on your left, and say that this will be the north numbers. Ask: which way is north on this grid? They should point in the direction that the numbers get larger, so a larger number means "more north" than a smaller one. Point to your left, and say that this will be the west numbers; once again, a higher number means "more west."
4. Divide girls into teams of two or three. Give each team a card with four coordinates on them and a pencil. Their task is to find each of the coordinates and record the letter at that coordinate. At the end, they may need to unscramble the letters, but they should have a word. Remember that, just like with latitude and longitude, the north number is always first in each pair. They can see if they need to move more or less north to get to the first number in the pair, then stay along that line to go more or less west for the second number.

### Part 2- Maps (10 minutes)

Steps:

1. On the computer, pull up Google, and then Google maps.
2. Explain that you can enter the coordinates of a geocache into Google Maps, and it will center itself on those coordinates. Then you can zoom in to get a map that gives you enough detail to recognize exactly where the cache should be, and you don't need to take the GPS receiver with you at all. If the cache is close enough to a street, you can get a street view picture, and it will tell you how far and in what direction you are from the cache (such as "275 feet SW.")

- Enter some of the cache coordinates and experiment with getting the best scale for maps. If you have to type in the numbers instead of cutting and pasting, don't worry about the degree or minute symbols. Type them in without those, such as "N 44 56.076 W 093 04.838." Ask the girls if they think they could find the cache with those images. Print the maps and street views, if a printer is available, or have them printed in time for your field trip.

### Activity #3: Trade Items

Badge Connection: Step 3—Make a trade item

Time Allotment: 15 Minutes

Prep Needed:

- Gather materials and supplies.

Materials Needed:

- Varies, depending upon trade item chosen. Potential supplies include: string, beads, safety pins, craft foam, tape, glue, cloth/fabric, paper, coloring utensils, etc.

Steps:

- Before girls start out on a geocaching adventure, they will need to carry an item that they'll leave at the geocache. This item should be small enough to fit inside the box and should not be expensive. Some common items are sports trading cards and small toys.
- Brainstorm as a troop what kind of trade item your group would like to make. Trade items can be things that represent Girl Scouts, like a patch or a SWAP; something that represents the individual members of your troop, like a drawing or collage; or a simple piece of jewelry that someone can wear.
- The girls will need to make a trade item for each cache they would like to find.
- Safety tip:** When making a trade item, remind girls to never include personal photos or information like names, phone numbers or addresses.

### Activity #4: Snack Chat

Badge Connection: Questions link to multiple badge steps

Time Allotment: 10 minutes

Steps:

- While enjoying snack, here are some things for girls to talk about:
  - Can you remember what some geocaching words are and what they mean?
  - Where do you think would be a good location to hide a geocache?
  - What additional preparation would you need if you were going geocaching in the winter, as opposed to in the summer?

### Wrapping Up

Time Allotment: 15 minutes

Materials Needed:

- Optional: Make New Friends printed on poster board

Steps:

- Instruct girls to get into a Friendship Circle. Have girls stand in a circle and cross their right arms over their left, holding hands with the person on each side of them.
- Sing "Make New Friends."

Make New Friends		
Verse One	Verse Two	Verse Three
Make new friends, but keep the old. One is silver, the other is gold.	A circle is round, it has no end. That's how long, I will be your friend.	You have one hand, I have the other. Put them together, We have each other.

- After the song, ask everyone to be quiet.

4. Assign a girl to start the friendship squeeze by gently squeezing her neighbor's hand with her right hand. Then, that girl squeezes with her right hand. One by one, each girl passes the squeeze until it travels around the circle. When the squeeze returns to the girl who started, she says "Goodbye Sister Girl Scouts" and the girls unwrap and face outward instead of inward.
5. Optional: Have girls make a wish after their hand has been squeezed and before they pass the squeeze along. Girls can also put their right foot out into the circle when they receive the friendship squeeze, so that everyone can see it travel along the circle.

### More to Explore

- Field Trip Ideas:
  - Attend a Geocaching Event and talk to the adventurers themselves. Girls can ask questions about geocachers' adventures and the cool things they have found.
  - Use a geocaching website to locate geocaches in your local area. As a group, head outside and see if you can find them.
- Speaker Ideas:
  - Invite a geocacher to your Girl Scout meeting.

### Suggestions

Do you have any suggestions to improve this activity plan? Do you have ideas for other possible badge-earning activities? Please email [troopsupport@girlscoutsv.org](mailto:troopsupport@girlscoutsv.org).

### Family Follow Up Email

Use the email below as a template to let families know what girls did at the meeting today. Feel free to add additional information, including:

- When and where you will be meeting next
- What activities you will do at the next meeting
- Family help or assistance that is needed
- Supplies or materials that girls will need to bring to the next meeting
- Reminders about important dates and upcoming activities

Hello Girl Scout Families:

We had a wonderful time today learning about geocaching and are on our way to earning the Geocacher Badge.

We had fun:

- Preparing for a geocaching adventure by learning some geocaching basics and how to use a GPS receiver.
- Making a trade item to leave at a geocache.

Continue the fun at home:

- Let your Girl Scout show you and other family members how to use a GPS receiver.
- Create a photo hunt with your Girl Scout and kids in your neighborhood.
- Look through the *Girl's Guide to Girl Scouting* with your Junior to find other activities you can try at home.

Thank you for bringing your Junior to Girl Scouts!

For a visible grid, tape string across the floor in a 10x10 block. Or, tape the cards with the numbers in even spacing around the sides of the grid area, and people will have to imagine where the gridlines are. If you're lucky, the floor will already have a tile pattern that you can use for your grid.

Tape the cards on the floor according to this pattern.

	1	2	3	4	5	6	7	8	9	10
1	W			D						
2										G
3					O	A				
4	B						S	R		
5			I			T				
6			U		F		E			
7				K		Y			C	
8				V					L	
9							N	M		
10		H								

Word 1: (1,1) (3,6) (8,9) (7,4) answer: WALK

Word 2: (2,10) (5,3) (4,8) (8,9) answer: GIRL

Word 3: (6,5) (5,3) (9,7) (1,4) answer: FIND

Word 4: (10,2) (5,3) (8,9) (6,7) answer: HIKE

Decoy letters: U (6,3); M (9,8); S (4,7); O (3,5); V (8,4); T (5,6); C (7,9); B (4,1); Y (7,6)

Make additional word cards by using the same coordinates but scrambling the order, so the groups are traveling to the locations in a different pattern.



## **Geocache Word Challenge**

Use this sheet to match terms with girls' answers. The cards have very brief answers, so once the group has found the right match, you can give the more detailed answers below.

### **Initials**

GPS—global positioning system: the system of satellites and software that lets us find our position

CITO—cache in trash out: leave no trash behind, and take as much of other people's trash as we can

FTF—first to find: no one has seen this cache besides the owner

TNLN—took nothing left nothing: signed in logbook if you neither took nor left a trade item

TFTC—thanks for the cache: signed in logbook as a thank you to the cache owner

### **Stuff to Bring**

Water—a must for any hike or outdoor item to keep you cool and hydrated

Map and compass—even if you have a GPS unit, you should still have these to keep yourself safe

First aid kit—for taking care of minor cuts or injuries

Trade item—something small left in a cache that can be traded for something else in the cache; basically, what Girl Scouts call SWAPS

Whistle—a loud noisemaker for getting people's attention if you get lost

### **Stuff to Find**

Geocache—a container hidden from view that contains a log book and possibly other items, and which can only be found by getting the coordinates and using a GPS receiver

Microcache—a very small geocache, usually a film canister or similar size

Geobeacon—an obvious marker or hiding place for a geocache. Caches rated as easy will be more likely to have large and clear geobeacons to look for, while difficult caches are much harder to guess where they are

Waypoint—a GPS coordinate saved in the unit so you can find it later. It is always a good idea to start by setting your starting place as a waypoint so you can find your way back again.

Travel bug—a small token found in a geocache and on a mission: once found, it can be taken and moved to a new geocache, hopefully closer to its goal (such as getting to Mexico and back, or visiting as many baseball fields as possible)

### **People and Stuff to Know**

Buddy—what a Girl Scout never leaves without; always tell your leader where you are going and have one of these with you

Muggle—someone who is not “in the know” about geocaching

Coordinate—a set of numbers in latitude and longitude that give your exact position on the Earth

Terrain—what the land is like to walk on; easy terrain might be flat, smooth and dry, while difficult terrain could be hilly, rocky or muddy

Geocaching.com—the largest website of geocache listings. Find a cache on the website, go out and look for the cache, then log back in and record your experience online. **Note:** caches at Girl Scout sites are never posted on geocaching.com or any other public sites.

## Headings

<b>Initials</b>
<b>Stuff to Find</b>
<b>Stuff to Bring</b>
<b>People and Stuff to Know</b>

## Terms

<b>GPS</b>	<b>CITO</b>	<b>FTF</b>	<b>TNLN</b>	<b>TFTC</b>
<b>Water</b>	<b>Map and compass</b>	<b>First aid kit</b>	<b>Trade item</b>	<b>Whistle</b>
<b>Geocache</b>	<b>Microcache</b>	<b>Geobeacon</b>	<b>Waypoint</b>	<b>Travel bug</b>
<b>Buddy</b>	<b>Muggle</b>	<b>Coordinate</b>	<b>Terrain</b>	<b>Geocaching. com</b>

**Answers—Basic**

global positioning system	cache in trash out	first to find
took nothing left nothing	thanks for the cache	to keep you cool and hydrated
keep yourself found and safe	for taking care of minor cuts or injuries	what Girl Scouts call SWAPS
get people's attention if you get lost	a hidden container, found by GPS	a very small geocache
an obvious marker or hiding place	a GPS coordinate saved so you can find it later	a token moved between geocaches
always take one of these with you	someone who doesn't geocache	a set of numbers that give your exact position
what the land is like to walk on	the largest website of geocache listings	