



## Navigation - GSKSMO in the Outdoors

**Outcomes:** Develop a strong sense of self.

Learning how to navigate safely is an important outdoor and general skill. For this week's GSKSMO in the Outdoors Challenge, we are going to learn about maps and what Girl Scouts at all levels can learn in order to better navigate her environment and the world around them.

All navigational techniques involve locating the navigator's position compared to known locations or patterns. Navigation, in a broader sense, can refer to any skill or study that involves the determination of position and direction. This week's patch is written by level; however, it can be adapted to any Girl Scout's level of ability!

### Here are the Basics of Navigation

- Learn basic spatial awareness.
- Learn how to read, make, and understand a map.
- Learn how to understand directional signs and how to use a compass.
- Break a trail or path into down into bite-size pieces.
- Practice estimating distances.
- Learn to read contour lines.



## Navigation for Daisies (or soon-to-be Daisies)

First things first, let's talk about Spatial Awareness.

**Spatial awareness** is a complex skill that tells us our position in relative awareness to where objects or areas are around us.

This is why it's so fun to play the game peekaboo with a baby during the first 1-2 years for development. We lose track of objects once they are not in our vision and think things disappear permanently until about 18 months.

As infants we begin to explore the world around us, listening, seeing and engaging the world in many ways.

For a deep dive into Spatial Concepts check out the website [meddybemps.com](http://meddybemps.com). You can download and purchase activity cards.



It may seem basic, but there are so many ways that you can teach and grow a child's spatial awareness especially as a Daisy. Note: The most important thing to remember is to let them try to do somethings themselves. Do not do it for them, coach and support as necessary.

- **Make a Physical Obstacle Course**
  - Make an obstacle course out of objects in your house or backyard.
  - Draw an obstacle course on the sidewalk, driveway or empty parking lot.
- **Complete Visual Obstacle Courses**
  - Have your Daisy build something new using Legos or other building structures (blocks, etc.)
  - Do a puzzle together as a family.
- **Play Hide and Seek**
  - With objects or with each other.
- **Make Patterns and Provide Verbal Descriptions**
  - "The stuffed Teddy Bear is to the right of the pillow."



## Navigation for Older Daisies and Brownies

### Pay Attention to Map Terms

Have a discussion with your girl and see if she can name the different parts of the map. Try to make this a girl led discussion with them pointing out the different parts and you assisting by filling in the gaps:

- **Orientation Arrow or GO arrow**– This is used to help us orient or position our map correctly.
- **Legend/Key** – This is used to identify the different things on the map including different types of trails, roads, and points of interest.
- **Hiking Trail** – where you can go to hike and the general direction the trail will go d. Point of Interest – a place where it is suggested you go and see
- **Scale** – how you tell how far one thing is to another and how long a trail is.

You Can Deep Dive into the Compass Basics Here – [Search and Rescue Task Force Compass Basics Website](#)

First watch this video: [How to Make a Map – Geography for Kids – Made by Red Cat Reads Video](#)

Kids vs. Life makes it easy for younger children to understand their world around them. When it gets to the part about map making try it!

- **Make a Word Map** – Start by writing down how you would get to your bedroom from the kitchen or front door. Use steps instead of exact distances
  - Ex) Take 3 steps forward from the front door, then turn right. Walk forward 10 steps and then turn to the door on your left. Open the door and Presto! You made it to your room.
- **Make a Map of Your Bedroom** – Use graph or lined paper and make a scale using the squares as your footsteps or lines marked with a ruler. Add large and then smaller objects.
- **Make a Treasure Map** – Get together with a friend or sibling and take turns hiding objects in different places. Make a treasure map of where you hid the surprise.
- **If you're a Brownie learn how to Letterbox and earn your Letterboxing Badge.**



## Brownie Badge: Letterboxing

### Letterboxing #1 - Get started with letterboxing

Learn about Letterboxing at the public website [letterboxing.org](http://letterboxing.org)

Letterboxing is a type of “treasure hunt” style activity. Letterboxers hide small, weatherproof boxes in places (like parks or in private areas like Girl Scout camp) and post clues to finding the box online.

However, clues to finding some of the most highly sought boxes are passed around by word of mouth.

There are about 90,000 active letterboxes hidden in North America alone. Individual letterboxes usually contain a logbook, and often hand-carved rubber stamp and occasionally contain an ink pad. Finders make an imprint of the letterbox’s stamp on their personal logbook and leave an imprint of their personal stamp on the letterbox’s logbook.

Make your own Log Book – [Check out Balzer Designs on Pinterest](#)

OR

Purchase One small travel size notebook.

**Letterboxing #2 - Practice solving clues** - Make clues and hide objects in your home or backyard.

**Letterboxing #3: Find your own stamp or Make Your Own!**

You can find unique rubber stamps at almost any craft store or online.

You can buy the pink erasers and use a linocutter to carve the design. This absolutely requires supervision from an adult and is a good lesson on knife safety. Always remember to cut away from yourself.

1. First Draw the Design with a Pencil on the eraser.
2. The design will be reversed when stamping, so letters have to be backwards.
3. Start at the right with backwards letters. This was a little confusing to the girls, so I had a couple samples to explain by showing.
4. Linocutters are SHARP. Always cut away from your hands/fingers/etc.
5. Depending on the depth of the carving, you can add texture and such to your design. Search design Ideas on Pinterest!



**Letterboxing #4: Search for a letterbox**

Local Kansas City Letterboxes – [Check some of them Out Here – The Curiosity Passport](#)

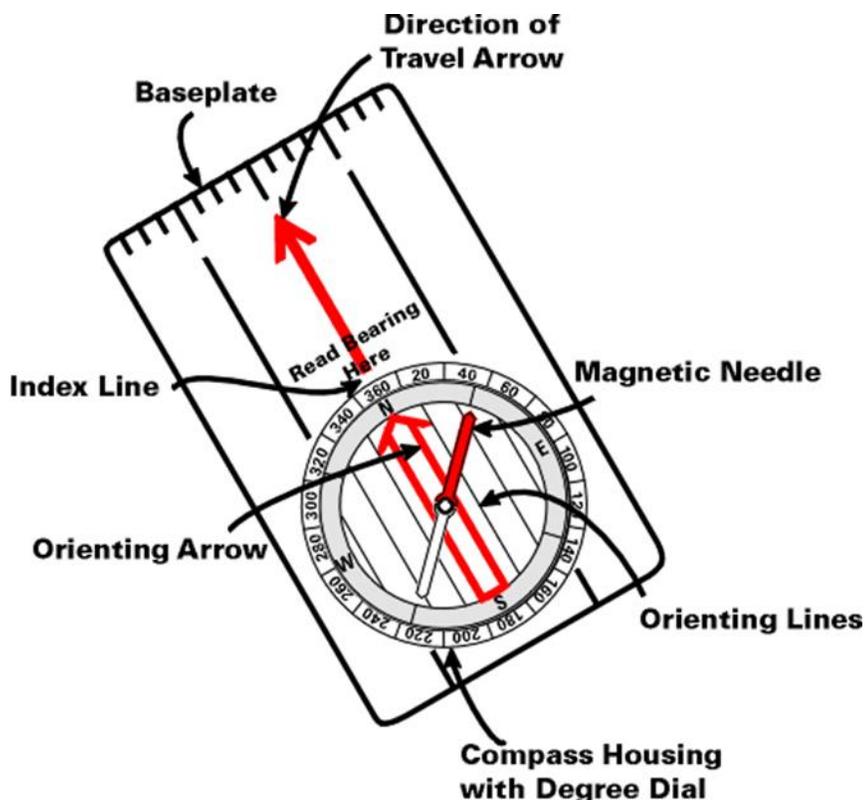
**Navigation for Older Brownies – Ambassadors - Practice**



## Learn how to use a compass

Materials Needed – Compass and some flags or objects

- Gather the girls and explain “Today we are going to learn about one of the most important tools when navigating in the backcountry – the compass.”
- First, we are going to learn about the different parts of the compass”
- Hand out a compass to each of the girls.
- It may be helpful to have a large compass drawn on a piece of paper to help show the different parts to a larger group.
- Because a compass works by using magnetization, it is important that you keep it away from large metal objects including cars, flagpoles etc. – or you will not have an accurate reading.



**How to hold and use a compass:** Hold your compass horizontal to the ground at about belly button level. Hold it so the direction of travel arrow is pointing away from your belly button. Keep the compass away from large metal objects.

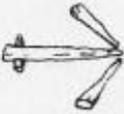
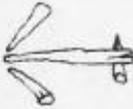
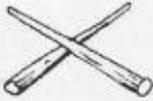
- Begin by finding North. Line the 0°/360°/N line up with the index pointer by spinning the dial.
- Turn your body until the compass shows the red part of the needle in line with the orientation arrow on the bottom of the plate. This is often referred to as putting Red Fred in the Shed. (Fred is the arrow and the shed is the orienting arrow.)
- The direction of travel arrow should then point North as well and tell you the direction to go.
- You can repeat this section for South, East, and West to do some practice.
- Have a girl pick a number between 0 and 360. For this example, we'll use 200°.
- Begin by lining the 200° mark up with the index pointer by spinning the dial. This is called taking a bearing.
- Turn the compass until Red Fred is in the Shed.
- Once all the girls have Red Fred in his Shed, point in the direction that the direction of travel arrow is pointing.
- Keep practicing until all girls are pointing in the correct direction.
- Now it is time to put your compass skills to the test! Make your own orienteering course!

Check out the awesome videos below to learn more or refine your compass skills



- [REI – How to Use a Compass](#)
- [Basic Orienteering Skills with Rangers from the New Hampshire State Parks](#)
- [Making a Sun Compass](#)
- [Compass 101 – How to Use a Baseplate Compass](#)
- [The Compass: True North vs. Magnetic North](#)
- [Make a Water Compass](#)
- [Wilderness Compass Making – How to Make a Compass from a Sewing Needle](#)

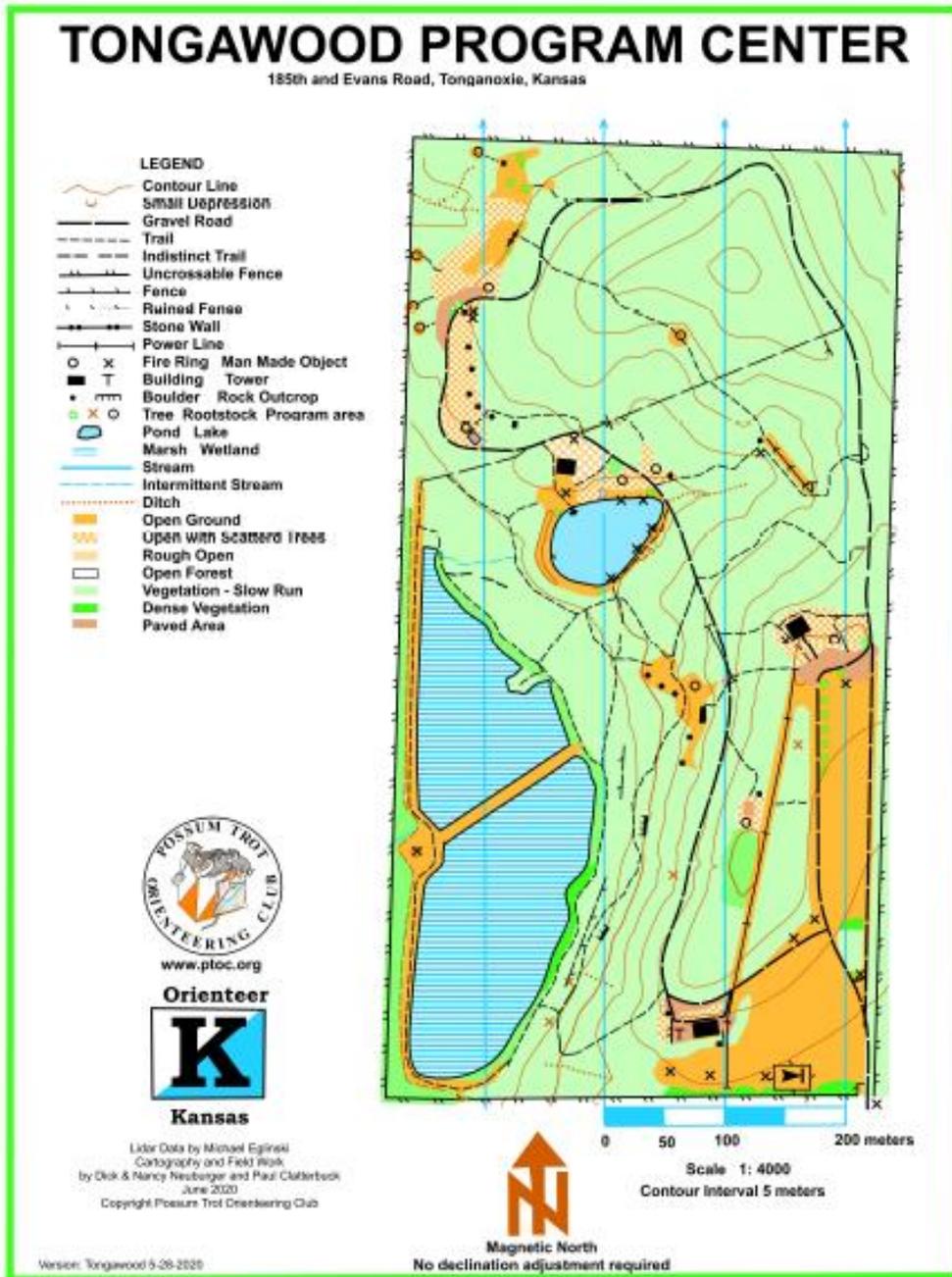
Learn trail signs in the event you don't have a compass or map

Trail Signs			
straight ahead	turn right	turn left	do not go this way
Rocks 			
Pebbles 			
Sticks 			
Long Grass 			
Number of paces in direction indicated 	I have gone home. 		



# Navigation for Older Brownies – Ambassadors - Practice

Let's start by identifying and reading parts of one of our camp's maps! See if you can answer the questions below just by looking at the Map of Camp Tongawood!



1. What do the different colors on the map represent?

- Blue
- Gold
- Dotted Gold
- Light Green
- Lime Green
- Red

2. What do the Gold colored lines represent?

3. What do the circles or X shapes tell us on this Map?

4. What is the scale for this Map?

5. Approximately How many meters is the from fence line of the property?

6. Who made this map and what is there website?

7. How current is this Map?  
When was the map created?

8. Where is the Compass of this map? Which Way is North?

**Answer Key** – 1. Water, open ground, open with scattered trees, vegetation, dense vegetation, paved area. 3. Contour lines 4. 1:4000 5. Estimated – about 550 Meters 6. Possum Trot Orienteering Club with Orienteer Kansas and the website is ptoc.org 7. This Map was created in May 2020 and yes, it is current. 8. The compass is at the bottom center of the map and the north arrow is facing up.



# Navigation for Older Brownies – Ambassadors - Geocaching

## About Geocaching

Geocaching is a high-tech treasure hunting game played throughout the world by adventure seekers equipped with GPS devices. The basic idea is to locate hidden containers, called geocaches, outdoors and then share your experiences online. Geocaching is enjoyed by people from all age groups, with a strong sense of community and support for the environment.

## About Geocaching.com

[Geocaching.com](https://www.geocaching.com) is the world's largest location-based gaming portal. Started in September 2000, by GPS enthusiast and web developer Jeremy Irish, the site now hosts more than 5 million geocachers, and more than 1.3 million active caches. Geocaching.com offers an array of features for both novice and avid geocachers. If someone is new to this worldwide activity, Geocaching.com will lead them through all the necessary steps for their first geocaching experience. The site provides an in-depth tutorial for getting started, as well as instructions on finding geocaches.



Visit these pages on [Geocaching.com](https://www.geocaching.com):

- [Introduction to Geocaching Presentation](#)
- [Guide to Geocaching: Printable Brochure](#)
- [Types of Geocaches](#)
- [Glossary of Common Geocaching Terms](#)
- [Guide to Hiding a Geocaches](#)

GPS Unit Information:

- [How to use GPS unit basics](#)
- [Download the Geocache App or Use it for Free on the Website](#)



# Navigation for Older Brownies – Ambassadors – Deep Dive into Navigation

## In General, there are Four Types of Navigation

- Land – [Basics in Land Navigation](#)
- Marine – [Marine Navigation – National Ocean Service](#)
- Aeronautic – [Flight Literacy – Flight Navigation](#)
- Space – [Deep Space Navigation – NASA SCIENCE](#)

Early humans used Marine Navigation as far back as 3000 BC. To Learn more, check out the links below!

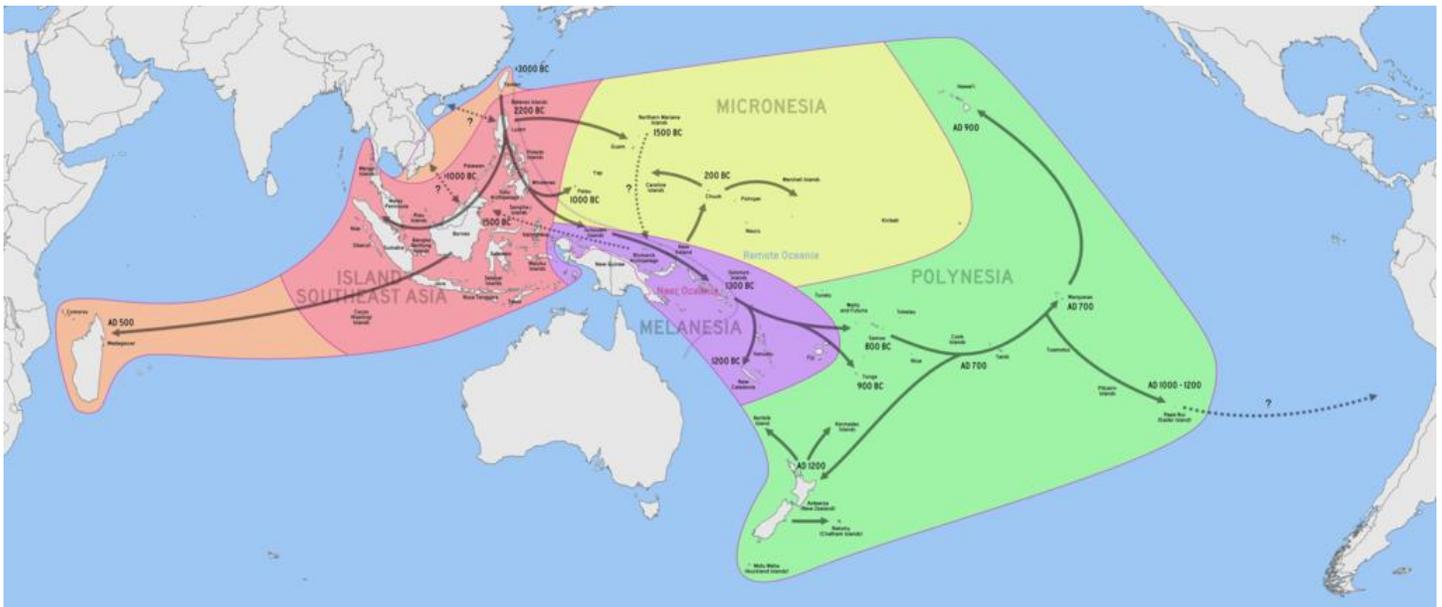


Figure 1 Chronological dispersal of Austronesian people across the Pacific (per Benton et al, 2012, adapted from Bellwood)

[Austronesian navigation](#)

[Air navigation](#)

[Celestial navigation](#)

[Galileo positioning system](#)

[Geodetic system](#)

[Great-circle distance](#)

[History of longitude](#)

[Ma Jun](#)

[Shen Kuo](#)

[List of explorers](#)

[Maritime history of the United States](#)

[Marshall Islands stick chart](#)

[Navigation](#)

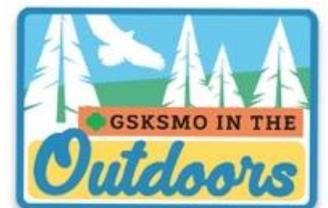
[Polynesian navigation](#)

[South-pointing chariot](#)

[Franz Xaver, Baron Von Zach,](#)

[Rhumblin grid](#)

[Nikola Tesla](#)



**When you're finished:** Congratulations, you have earned your navigation bar! You can purchase this bar and the main Outdoor patch at: <https://gsksmo.doubleknot.com/event/patches/2747743>

