

TREASURE BOX

A MAP-READING & COMPASS SKILLS RESOURCE
FROM THE BC PROGRAM COMMITTEE



CONTENTS

1	The Treasure Box.....	1
2	Meeting Plans.....	2
2.1	Sample Spark Meeting.....	2
2.2	Sample Brownie Meeting.....	2
2.3	Sample Guide Meeting.....	2
3	Activity Instructions.....	3
3.1	Map Sharing.....	3
3.2	Story Maps.....	3
3.3	Who is North?.....	4
3.4	Name that Wall.....	4
3.5	Direction Dance.....	5
3.6	Wedding Story.....	5
3.7	Birds Fly South.....	6
3.8	Compass Craft.....	6
3.9	Treasure Hunt.....	7
3.10	Uphill or Downhill.....	7
3.11	Sundial Fun.....	8
3.12	Map Drawing.....	8
3.13	Compass Boomerang.....	9
3.14	No Compass?.....	9
3.15	Inside Treasure.....	10
3.16	Decoder Ring.....	10
3.17	Are we there yet?.....	11
3.18	Which One?.....	11
3.19	Magic Maps.....	12
3.20	Compass Message Puzzle.....	13
3.21	Map Bearings.....	13
3.22	Follow a Bearing.....	14
3.23	Field Bearing.....	14
3.24	Declination.....	15
3.25	Compass Drawings.....	15
3.26	Orienteering.....	15
3.27	Following Directions.....	16
4	Program Connections.....	17
4.1	Spark Program Connections.....	17
4.2	Brownie Program Connections.....	17
4.3	Guide Program Connections.....	17
4.4	Pathfinder Program Connections.....	18
5	Appendix.....	19

1 THE TREASURE BOX

The purpose of the Treasure Box is to provide Guiders with a variety of simple, engaging activities that will help develop map-reading and compass skills.

Each district should have a physical copy of the Treasure Box, as distributed by the BC Program Committee several years ago. However, we understand that physical toolkits can be misplaced, and because it is now convenient to share information digitally, we have compiled the contents of the original Treasure Box into this document, and added a few new resources. Please note that there were two CDs in the original box: a copy of the song “Stand” by R.E.M. and a program adventure CD called “You Go Girl”. These audio resources are not provided here.

Original Treasure Box Contents:		
Pink idea cards:		
<ul style="list-style-type: none"> <input type="checkbox"/> A Spark Meeting <input type="checkbox"/> A Brownie Meeting <input type="checkbox"/> A Guide Meeting <input type="checkbox"/> Story Maps <input type="checkbox"/> Inside Treasure <input type="checkbox"/> Sundial Fun <input type="checkbox"/> Map Sharing <input type="checkbox"/> Decoder Ring <input type="checkbox"/> Are we there yet? <input type="checkbox"/> Treasure Hunt <input type="checkbox"/> The Wedding <input type="checkbox"/> No Compass? <input type="checkbox"/> Map Drawing <input type="checkbox"/> Magic Maps (2) 	<ul style="list-style-type: none"> <input type="checkbox"/> Which One? <input type="checkbox"/> Direction Dance <input type="checkbox"/> Compass Boomerang (2) <input type="checkbox"/> Map Bearings <input type="checkbox"/> Birds Fly South <input type="checkbox"/> Compass Craft <input type="checkbox"/> Follow a Bearing <input type="checkbox"/> Name that Wall <input type="checkbox"/> Uphill or Downhill <input type="checkbox"/> Field Bearing <input type="checkbox"/> Who is North? <input type="checkbox"/> Orienteering <input type="checkbox"/> Declination 	<ul style="list-style-type: none"> <input type="checkbox"/> Birds Fly South Game bags (3 or 4) <input type="checkbox"/> Magic Maps (1 pink, 1 green) <input type="checkbox"/> CD: You Go Girl / Program Adventure <input type="checkbox"/> CD: Stand by R.E.M. (not to be copied) <input type="checkbox"/> Compass Craft sample <input type="checkbox"/> Sundial Sample – assembly required <p>Purple File Folder:</p> <ul style="list-style-type: none"> <input type="checkbox"/> patrol colouring sheet masters (North, South, East, West) <input type="checkbox"/> sundial master <input type="checkbox"/> decoder ring master <input type="checkbox"/> The Wedding



2 MEETING PLANS

Following are some suggested activities to create compass and map-reading meetings for Sparks, Brownies and Guides. These do not include all of the activities provided in this booklet; you can adapt any meeting as you see fit, or add in your own compass and map-reading activities.

2.1 Sample Spark Meeting

5 min	Gathering activity	N, S, E, W signs to colour Appendix
10 min	Spark opening	3.1 Map Sharing..... 3
10 min	Activity	3.2 Story Maps..... 3
5 min	Game	3.3 Who Is North? 4
10 min	Activity	3.4 Name That Wall 4
10 min	Game	Simon Says
5 min	Activity	3.5 Direction Dance 5
5 min	Spark closing	

2.2 Sample Brownie Meeting

5 min	Gathering activity	Colouring pages Appendix
10 min	Brownie opening	3.1 Map Sharing 3
5 min	Game	3.3 Who Is North? 4
5 min	Activity	3.4 Name That Wall 4
10 min	Game	3.6 Wedding Story 5
15 min	Station	3.2 Story Maps..... 3
15 min	Station	3.7 Birds Fly South..... 6
15 min	Station	3.8 Compass Craft 6
5 min	Activity	3.5 Direction Dance 5
5 min	Brownie Closing	

2.3 Sample Guide Meeting

10 min	Patrol activity	3.7 Birds Fly South..... 6
10 min	Opening	
10 min	Activity	3.1 Map Sharing 3
10 min	Game	3.6 Wedding Story 5
20 min	Activity	3.9 Treasure Hunt 7
10 min	Snack	3.10 Uphill or Downhill 7
10 min	Station	3.8 Compass Craft 6
10 min	Station	3.11 Sundial Fun..... 8
10 min	Station	3.13 Compass Boomerang 9
10 min	Station	3.12 Map Drawing..... 8
10 min	Activity & closing	3.5 Direction Dance 5

3 ACTIVITY INSTRUCTIONS

3.1 Map Sharing

Objectives:

- learn about different kinds of maps

Supplies:

- various types of maps

Directions:

1. Have everyone bring a map from home.
2. See how many different kinds of maps there are.
3. Don't forget about star maps, mazes, floor plans, transit maps, etc.
4. Have each person share something about her map.
5. Post the maps for decoration.

3.2 Story Maps

Objectives:

- improve listening skills
- learn the concept of maps

Supplies:

- crayons or coloured pencils
- storybook
- paper

Directions:

1. Read a story (fairytales work well).
2. Create a map based on the details in the story.
3. Work individually or in small groups.

3.3 Who is North?

Objectives:

- to learn that the compass needle always points one way

Supplies:

- compass
- Santa item
- chair or small table

Directions:

1. Explain to the girls that the red compass needle points North (think of who lives at the North pole and what colour he is known for!).
2. Have girls in a circle. In the middle, place a compass on a chair.
3. Figure out which girl is North by seeing where the red needle points.
4. Give her the Santa item. This is now the 'Santa girl.'
5. Have the girls walk around the circle until the leader says stop.
6. When stopped, have the 'Santa girl' check the compass.
7. Who is North now? Give her the Santa item.
8. Now and then, act surprised, turn the compass, wiggle it, shake it, etc.

3.4 Name that Wall

Objectives:

- learn the cardinal directions
- keep active

Supplies:

- compass
- crayons
- direction signs and colouring pages (*see Appendix*)

Directions:

1. Have the girls colour the direction signs and colouring pages.
2. Use a compass to decide how to label the room (for older girls, try labeling the intercardinal points: NW, NE, SW, SE).
3. Use games like Simon Says to learn the compass points:
 - i.e. Simon says run to the North wall, and
 - i.e. Simon says hop on one foot by the South window.

3.5 Direction Dance

Objectives:

- improve listening
- keep active
- learn directions

Supplies:

- “Name that Wall” signs for each direction (*see Appendix Colouring sheets*)
- “Stand” song by REM – you can find this on YouTube at http://youtu.be/AKKqLI_ZEEY or purchase the mp3 song online
- music player: mp3 player, cell phone or computer (to play YouTube video)

Directions:

1. Do the “Name that Wall” activity to label the walls North, South, etc.
2. Listen to the song “Stand” by REM.
3. Have the girls make up actions or dances that go with the words in the song, i.e. Stand in the place where you are, Face North, etc.
4. The song does not use every direction, so you may want to choose other words in the song as cues, i.e. ‘sun’ = face South, ‘compass’ = face East.

3.6 Wedding Story

Objectives:

- improve listening
- keep active
- learn directions

Supplies:

- ‘The Wedding Story’ (*see Appendix*)

Directions:

1. Each girl brings a chair or sit-upon into the circle.
2. Divide the circle into the 8 points of the compass.
3. Leave a clearly defined space between each point.
4. When each section is called, for instance, NORTH, they stand up, turn around and then sit down. Each section does the same thing when their compass point is mentioned.
5. When the storyteller says WORLD, each player moves (clockwise) over one chair. Each player should note which section they are now occupying.

3.7 Birds Fly South

Objectives:

- practice counting
- learn cardinal directions (N, S, E, W)
- learn about grids
- keep busy at the start of a meeting!

Supplies:

- 'Birds Fly South' game board for each group (*see Appendix*)
- game pieces and die for each group

Directions:

1. This game is similar to 'Snakes and Ladders'.
2. Roll to see who goes first (highest roller).
3. On your turn, roll the die and move the correct number of spaces (move left to right on the 1st row, then right to left for the 2nd, etc.).
4. Follow the directions on each space.
5. The group wins when all players reach the finish.

3.8 Compass Craft

Objective:

- to learn about magnets & how a compass works

Supplies:

- glass bowl with water
- compass
- needle or pin
- small circle of fun foam
- magnet

Directions:

1. Rub the magnet in one direction about 50 times along the needle.
2. Set the pin onto a piece of foam that is floating in the bowl of water.
3. The magnetized pin will spin to line up with the earth's magnetic poles!
4. Use a real compass to check the direction of the pin (it should be parallel to the magnetic needle inside the compass).
5. To make sure you always get north at the point of the pin, you need to experiment which way to rub the magnet and then label it with an arrow. (Hint: if the needle faces east-west, turn your magnet 90°.)

3.9 Treasure Hunt

Objective:

- use map reading skills to find a surprise outside

Supplies:

- a map for each person
- treasure for each person
- markers with clues

Directions:

1. Have a map for each person, if possible.
2. To discourage following, have more than one map—each with its own ‘treasure box.’ Or send groups in opposite directions at intervals, and tell them they may be on a different course.
3. Keep the map as simple as possible, with easy to recognize features, i.e. the playground, the steps, the doors, the windows, etc.

3.10 Uphill or Downhill

Objectives:

- learn about contours (squiggly brown lines on some maps)
- share a healthy snack!

Supplies:

- topographical map
- knife
- apple
- paper and pencil
- cutting board

Directions:

1. Slice an apple into 2 pieces, then turn face down to make ‘mountains.’
2. Explain that on some maps, contour lines are used to show steepness.
3. Slice one apple ‘mountain’ at equal intervals, and stack it back up.
4. Look down on the apple ‘mountain’ to see the rings from the slices; these are like contours. Draw a map of the apple ‘mountain.’
5. Use a real map with contours to find a hilltop (the innermost loop), steep places (lines are close together), & flat areas (no lines).

3.11 Sundial Fun

Objectives:

- find directions without using a compass

Supplies:

- 'Sundials' template (*see Appendix*)
- compass
- scotch tape
- scissors
- flashlight

Directions:

1. Copy the 'Sundials' template onto cardstock paper.
2. Have the girls make the sundials using the directions on the template.
3. Using a flashlight as the sun, demonstrate ways the sundial can be used:
Use the sundial to tell time:
 - Line up the North on the sundial with the compass North, then use shadow from the sun (or flashlight) to show the time.Use the sundial to find North:
 - Turn the sundial so the shadow is at the correct time.

3.12 Map Drawing

Objective:

- learn how maps are like a 'bird's eye view' of places

Supplies:

- 3 objects
- paper & pencil

Directions:

1. Have girls in groups.
2. Have each group send the first girl up to draw.
3. In an area out of view of the group, lay out sets of identical objects. Arrange the objects differently for each set.
4. Have each girl draw a 'map' of one of the scenes.
5. See if her group can guess which one she drew.
6. Rotate girls so they all have a chance to draw.

3.13 Compass Boomerang

Objective:

- to follow 3 compass bearings (creating a perfect triangle)

Supplies:

- compasses (1 per girl or group)
- markers for starting spots
- instruction sheets

Directions:

1. Fill out an instruction sheet for each group or girl (see below).
2. The number of paces must be the same for each part.
3. Choose your first bearing. Add 120° to get the 2nd bearing, and another 120° for the 3rd, so that you get an exact triangle shape, i.e. go 10 steps at 30° , then 10 steps at 150° and 10 more at 270° .
4. Put girls in small groups (2 or 3 works best).

Hint: Don't tell them that they should return to their starting point!

Game Instructions:

Make sure you have a compass.

Begin at your starting spot.

Follow the clues below to reach your secret finishing spot.

Game Clues:

1. Set your compass to _____ degrees and walk ____ paces.
2. Set your compass to _____ degrees and walk ____ paces.
3. Set your compass to _____ degrees and walk ____ paces.

3.14 No Compass?

Objective:

- Figure out if your map is facing the right way without using a compass!

Supplies:

- 3 local maps
- tape

Directions:

1. Arrange the 3 maps on a table in a spot with good visibility.
2. Make sure that only one map is facing the right way.
3. On each map, mark "You Are Here" in the correct location.
4. Have the girls figure out which one is facing the right way.

3.15 Inside Treasure

Objectives:

- use a map to find a surprise

Supplies:

- one large map
- treasure for each girl
- markers with clues

Directions:

1. Make a map of your meeting place (better yet, have some girls do it!). Keep the map as simple as possible.
2. Draw small red circles on the map to show the locations to be found.
3. Place markers, clues, or treats at each location. Markers should not be hidden, but you can vary the height to make it more challenging.
4. Have the girls find each location by referring to the main map. They can go to the locations in any order.

3.16 Decoder Ring

Objectives:

- decode a message
- find some treasure!

Supplies:

- 'Decoder Ring' template (*see Appendix*)
- metal brads
- heavy paper
- scissors
- glue

Directions:

1. Copy the 'Decoder Ring' template (use cardstock if available).
2. If not copied onto cardstock, glue the templates onto cardboard.
3. Have the girls cut out the 2 'Decoder Ring' pieces.
4. Fasten them together using the metal brad, but leave it loose enough that it can spin.

The decoder ring can be used to unscramble clues that you set out as part of an indoor or outdoor treasure hunt.

3.17 Are we there yet?

Objective:

- to have the girls plan a hike and take on leadership roles

Supplies:

- compass
- map of hike area
- paper & pen
- string

Directions:

1. Break the hike into parts.
2. Hand out maps of the area to each group.
3. Use string & the scale to find the distance.
4. Use map bearings so they know which direction they will travel (see “Map Bearing” card).
5. If the map has contours, have them decide if they will be going uphill, downhill, or flat for their part.
6. When you go on the hike, let the girls do the leading. Then you can be the one to ask, “Are we there yet?”

3.18 Which One?

Objective:

- Figure out if your map is facing the right way by using a compass!

Supplies:

- 3 maps
- tape
- compass

Directions:

1. Arrange the 3 maps on a table in a spot with good visibility.
2. Make sure that only one map is facing the right way.
3. Have them use a compass to figure out which one is facing the right way (the North needle on the compass will match North on the map).

3.19 Magic Maps

Objective:

- to use a compass to get a map facing the right way

Supplies:

- set of 'Magic Maps' (see *Appendix*)
- treasure box
- compasses
- string for each 'Magic Map'
- treasure for each girl

Directions for Setting a Magic Map Course:

1. Learn to find North on a compass (red points North).
 2. Learn how to use the 'Magic Maps' (see below).
 3. Take a stack of magic maps to your starting point.
 4. Estimate the direction you need to get to the next station.
 5. Find the map closest to the direction you need. Test it. Tie it on.
 6. Walk to next station & repeat. Put the Treasure Box as the last station.
- girls should be able to see the next map when they face the right way
 - tell the girls there are trick maps, so they'll need to use the compasses

Directions on How to Use the Magic Maps:

1. Learn to find North on a compass (red points North).
2. Hold the 'Magic Map' flat, in front of your tummy.
3. Turn the map so the treasure arrow (thick one) points away from you.
4. Put compass flat on map. Point it the same way as the treasure arrow.
5. Twist the compass housing (round part) so the North lines (red ones on the bottom) are parallel to the North arrows on the map (thin ones).
6. Turn yourself (and the map) slowly until "red is in the shed" (the red needle is pointing to North on the compass).
7. Walk in the direction of the map's treasure arrow (thick one).
8. Keep your eyes open for the next map, or for the Treasure Box if you are near the end!

3.20 Compass Message Puzzle

Objectives:

- learn the cardinal and intercardinal directions

Supplies:

- compass message puzzle sheets (there are two levels of difficulty) (*see Appendix*)
- pencils

Directions:

1. To work out the message, start from the centre square (a toadstool for Brownies, a trefoil for older girls) and note down the letter it leads. They must always start from the centre square for every single letter in the message.
2. Older girls have a bonus message in their puzzle – so they need to cross out each letter as they find it, to reveal the bonus hidden message.
3. Answers:
 - The Brownie message is “Brownies like to play games.”
 - The Guides & Pathfinders message is “If you are facing in the right direction, just keep walking.”
 - The bonus message is “Girl Guides are super compass sleuths.”

3.21 Map Bearings

Objectives:

- Plan a hike using compass bearings from a map to figure out the directions the trail will take along the way.

Supplies:

- compass
- map of hike area

Directions:

1. Put the edge of the compass along the trail on the map.
2. Turn the housing (round part) until the North lines (bottom of compass) are parallel to the North of the map.
3. Read the direction at the top of the compass (adjust for declination if perfect accuracy is required - see ‘Declination’ card).

3.22 Follow a Bearing

Objective:

- to be able to follow the map bearings that you planned for your hike so you don't get lost!

Supplies:

- compass
- pre-planned route (bearings)

Directions:

1. Hold your compass flat, at waist level.
2. Make sure it is pointing away from you.
3. Turn the housing (round part) until the number you want (the bearing) is at the top.
4. Slowly turn your whole body (with the compass) until the red magnetic North needle points to the N (0°) on the dial. For more accuracy, it should point to the declination mark.
5. You should now be facing the direction of the bearing.

3.23 Field Bearing

Objective:

- Find the direction of something you are looking at, and then identify it on a map (this is useful at a trail intersection or for figuring out which mountain or lake you're staring at).

Supplies:

- compass
- map of hike area

Directions:

1. Aim your compass down the trail or at the object in question.
2. Turn the housing (round part) until the N (or 0°) on the dial is right in front of the tip of the magnetic north needle (red) inside the compass. For a more accurate reading, turn the N to the declination mark.
3. Read the number (the bearing) that is now at the top of the compass.
4. To see which trail, mountain or lake this is, recreate the compass bearing on the map as an imaginary line from your current location.
5. The trail, lake, or mountain should be along this line.

3.24 Declination

Note: Skip this activity unless you have older girls, or are really keen.

Yes, it's true, depending on where in the world you are, the magnetic field of the earth is not exactly in line with True North. Because of this, a declination is put on some maps, so that you can adjust for it to get accurate readings.

Objective:

- Figure out declination

Supplies:

- compass
- topographical map

Directions:

1. On the topographical map, find the declination (number of degrees).
2. Put a small strip of red tape on the bottom of the compass to point from the centre to the correct number & direction of degrees.
3. When you take a field bearing or follow a bearing, instead of matching the magnetic needle to the N (0°), line it up with the red tape.
4. If your compass has a declination setting, learn how to use it.

3.25 Compass Drawings

Objectives:

- learn the cardinal and intercardinal directions

Supplies:

- compass drawing sheets (*see Appendix*)
- pencils

Directions:

1. Draw on the edges of the squares or from corner to corner, in the direction indicated.
2. Answers: Sheet #1: dog; Sheet #2: teddy bear; Sheet #3: owl; Sheet #4: maple leaf

3.26 Orienteering

This is a sport that is similar to a treasure hunt. It involves using a map (and sometimes a compass) to find markers. Beginners are welcome at most meets. Instruction is available.

For contacts in your area, please visit the Orienteering Association of British Columbia website at <http://www.orienteeingbc.ca/OABCContacts.htm>.

3.27 Following Directions

Objectives:

- learn the cardinal and intercardinal directions
- learn trail signs

Supplies:

- 'Following Directions' instruction cards and pictures (see *Appendix*)
- Plastic page protectors (optional)
- Masking tape

Directions:

1. Print out the 'Following Directions' pictures; as there are two pictures per sheet, cut each sheet in half.
2. Put each picture inside a page protector.
3. Lay the sheets out on the floor, as follows:

	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

4. Tape the pictures/page protectors in place using the masking tape.
5. Give each girl a 'Following Directions' instruction sheet. They then follow the instructions on the sheet by stepping/hopping on the pictures.
6. Answers:
 - Start at the pig (F4), end at the dog (B3).
 - Start at the snake (B4), end at the campfire (E3).
 - Start at the happy face (B1) end at the cat (G1).
 - Start at the cat (G1), end at the hiking boot (C1).
 - Start at the rabbit (E2), end at the butterfly (C5).
 - Start at the mouse (A2), end at the dolphin (B5).
 - Start at the bird (F2), end at cowboy hat (D4).
 - Start at duck (B2), end at swimming (D3).

4 PROGRAM CONNECTIONS

Wondering how the activities in the Treasure Box fit into the rest of your unit's program? Following are some program connections relating to maps and compasses for each branch. This is not a comprehensive list, feel free to apply your activities to other parts of the program as you see fit. Remember that each activity you complete can accomplish multiple parts of the program.

4.1 Spark Program Connections

Going Camping Keeper: Additional Activity

Play a game about north, south, east and west to teach the girls compass directions.

4.2 Brownie Program Connections

Key to Camping: Which Way interest badge

Entire badge.

4.3 Guide Program Connections

Beyond You: Discover Your Community

2. Community is about people interacting and sharing ideas as well as living together. Create a pamphlet, map, model, collage or poster that illustrates your community and the places where people meet, find services, find help, learn or enjoy sports. Include things like the schools, community centres, hospital, post office, parks, fire hall, museums, city hall, shopping malls, or make sure to include places that are of particular interest to you.

Beyond You: Explore the Outdoors and Nature

3. Demonstrate that you know how to use a compass. Adjust a map to a compass. Take a compass bearing from a map and follow it. Learn trail signs and follow a trail.

Beyond You: Fun in the Outdoors: Exploring interest badge

4. Demonstrate that you know how to use a street or road map.
5. Use a compass to follow or lay a course that changes direction at least six times.

Beyond You: Fun in the Outdoors: Hiking interest badge

6. Show ways your compass or GPS could be useful on hikes.

Beyond You: Science & Technology: Weather interest badge

5. Build an instrument that uses weather, such as a sundial.

You and Others: Safety: Street Wise interest badge

1. Draw a map of your local community or your route to school.
2. Be able to read a street map and give directions.

Discovering You: Discover What's Important to You

5. Use numbers to create a code. For instance, A=7, B=8, C=9, and so on. Write out a secret message for a friend. Share the key to the code with her and see if she can decipher your message.

4.4 Pathfinder Program Connections**Let's Take it Outside: Finding Your Way**

Entire badge.

Let's Take it Outside: Out on the Trails

For adventure camping, you should also learn about water treatment, map and compass navigation skills and basic survival skills.

A World to Discover: Canada at Your Doorstep

10. If you're planning a driving trip, get provincial/territorial road maps and find rest stops.

A World to Discover: What's Up Around the World?

4. Clean water is essential to human health. Look at a map of your province/territory and see if there are any boundary waters (i.e., rivers that flow across the boundary of one country and into another or lakes that straddle a border).

5 APPENDIX

Several of the resources listed in this document can be found in separate Appendix files. The following files can be downloaded individually:

Birds Fly South Game Board

Colouring Sheets

Compass Drawings

Compass Message Puzzles

Decoder Ring Template

Following Directions Instruction Cards and Pictures

Magic Maps

Sundial Template

Wedding Story